CHI'22: Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems

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Association for Computing Machinery

Advancing Computing as a Science & Profession

CHI22

CHI'22
Proceedings of the 2022 CHI Conference on
Human Factors in Computing Systems

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General Chairs' Welcome

Welcome to CHI2022! This is the first fully hybrid CHI, and our return to in-person meetings after two years of a global pandemic. Our theme has been "Cultivating Communities", and over the past two years of planning for this conference we've seen how important our communities are, and how fragile they can be. We specifically picked the term "communities" because we also understand that CHI comprises diverse communities, and that it is a privilege for CHI to have them all come together for a few days to exchange high-level ideas and advance the field in various directions, all aiming at a better future with technology.

Our focus for this conference has been to find ways to connect people in spite of their physical separation. It's been to truly think about the pros and cons of "hybrid" conferences. Our additional goal has been to think about what belonging to our communities means, and how we can nurture that sense of belonging for all people. The conference this year is a grand experiment for us all, and while we are sure there will be friction and problems, we are as sure that the people of CHI will overcome them, will insist on future improvements, and will continue to drive innovation. If we decide that hybrid conferences are in our future, we'll all need to think about new processes, new methods of generating revenue, and new systems to support our activity.

We are proud to have pioneered a papers revision process for CHI2022. The scale of CHI has always made the revision process for papers seem daunting, but this year with feedback from the CHI Steering Committee (which is composed of past general, technical, and papers chairs) and some thoughtful leadership by our own papers chairs we were able to design a process by which some people could submit papers, receive feedback, and resubmit those papers in the same cycle. For a first step, we are very happy with the results. Future conferences will iterate on this process, and over time we will find a process that balances our desire for both speed of publication and quality of feedback and research. But the barrier has been broken, and now CHI has a future with a revise and resubmit process.

This CHI has drawn volunteers from an open call. One of our major goals this year was to create new processes for equity and justice in our community. We established the Equity, Justice and Accessibility roles as "executive" level positions, so those advocates could be part of every conversation and every decision involving the conference. We conducted an open call for volunteers for almost all leadership positions within the conference – and staffed most roles out of that open call. The only exceptions were for roles that required significant experience or technical knowledge. Consequently, we were able to place many people into content leadership roles for the first time.

We want to be good guests in New Orleans. This is a fantastic city that has shown resilience in the face of disaster. This city is also one of the most important cities in the country, with an amazing cross-cultural and multilingual heritage. To be good guests and support the city, we have sourced non-profit organizations for our members to donate to, we've invited local artisans to sell their merchandise directly in our exhibit hall, we've prioritized local, Black-owned businesses whenever possible for making purchases, and have worked closely with our local arrangement chairs and people at the convention center to recommend experiences that will enable people to get to know the multiple facets of this city.

We are very excited for those able to be in-person that they get to experience the Crescent City. It has been shaped by French, Spanish, West African, and Native American cultural roots. It has also been shaped by colonialism, slavery, civil war, natural disasters, and multiple pandemics. Through all of this, it has turned turmoil and pain into art and culture. It's a city that is proud of itself and how it has endured. If you get a chance to be there, check our lists of restaurants and cultural experiences. If you're participating online, we'll be sharing some of our favorite content related to NOLA, including music, movies, and recipes.

The role of every CHI organizing team is to innovate to improve the conference, while also preserving what has worked in the past. We are continuing the focus of past CHIs in considering our carbon footprint - thinking about locally sourced products at the conference, reducing mailings and printed materials in general, buying recycled products when available. We also see the hybrid conference as a major step towards more sustainable practices, and it enables people to advance their careers through the conference without having to make the flight to the conference to do so.

Years of planning go into every CHI. We started this process in 2019, well before the COVID-19 pandemic. The conference operates on a multi-year scale, which is easy to forget when one is actually attending it. For instance, when we came on in 2019, the conference city and dates had already been selected by the Steering Committee, as contracts for spaces like convention centers often book many years ahead of schedule. The up-side of this multi-year scale is that we continue to learn and grow - and planning this hybrid conference has taught us many valuable lessons.

We want to thank the dozens of people who served as organizers for this conference. Given the uncertainty of hybrid, in many cases we were asking them to organize two CHI conferences, when often organizing one is already seen as a challenge. This was a ludicrous request to make, and these chairs all delivered spectacularly. There are too many of them to name here, but they forever have our gratitude for their service, for their thoughtfulness, and for their passion in making CHI the best it can be.

If we've all learned something in the past few years, it's that nothing is certain. At various times in our organizing process we didn't know what the course of the pandemic would look like. We didn't know how people would respond to the hybrid options, or to the changes we were making to the conference. But the other thing we've learned from the pandemic is to be grateful for that which endures. Like New Orleans has endured its natural and manmade disasters, CHI will endure and thrive. This is because of you – the person willing to submit to the conference, to review papers, to organize a venue, to advocate for others, to find reviewers, to present their work or to listen to the work of others. In other words, our communities are what we are grateful for. Thank you and laissez les bons temps rouler!

Cliff Lampe *(University of Michigan, USA)*
Simone Barbosa *(PUC-Rio, Brazil)*
General Chairs, CHI 2022
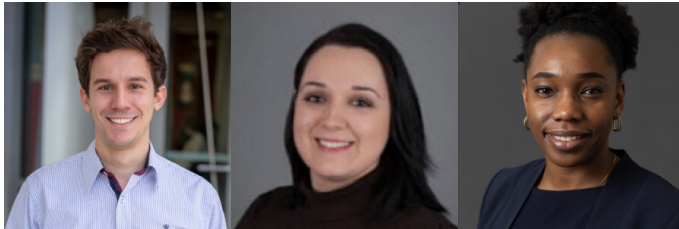
Danilo Gasques *(UC San Diego, USA)*
Monica Pereira *(Brunel University London, UK)*
Ihudiya Finda Williams *(University of Michigan, USA)*
Assistants to the General Chairs, CHI 2022

Papers Chairs' Welcome

Creating the papers program for CHI is a huge effort, involving so much work from so many volunteers, and often we forget to appreciate and acknowledge this critical work in our community. Therefore, we would like to acknowledge the work of more than 600 people who accepted the invitations and acted as sub-committee chairs (SCs), associate chairs (ACs) and assistants to the SCs who did the tremendous work of recruiting, coordinating, and organizing reviewers for the papers program for CHI 2022. In total, the CHI 2022 papers track had 45 SCs, 466 ACs, and 2678 reviewers who read, reviewed and coordinated 2579 submissions organized into 22 split sub committees.

We hope that you appreciate the program and remember to say thank you when you meet one of the many people who took time out of their already busy schedule to make sure that CHI 2022 has an amazing program.

Enjoy.

Steven Drucker *(Microsoft Research, USA)*
Julie Williamson *(University of Glasgow, UK)*
Koji Yatani *(University of Tokyo, Japan)*
Papers Chairs, CHI 2022

Nikita Samarin *(University of California, Berkeley, USA)*
Zhongyi Zhou *(University of Tokyo, Japan)*
Assistants to the Papers Chairs, CHI 2022

Technical Program Chairs' Welcome

After 44 fully virtual events (14 courses, 29 workshops and 1 symposium) happen mid-April, the onsite-hybrid CHI 2022 conference will kick off with a weekend packed with 18 workshops, 1 symposium, and the doctoral consortium. The main conference will run from Monday to Thursday across more than 15 parallel sessions that will include papers, panels, journal presentations, case studies, special interest groups, courses, alt.chi, and the popular student research, student game and student design competitions. This year, most technical sessions are truly hybrid and will include live presentations and Q&As from both remote and onsite authors. Most pieces of technical content also feature a pre-recorded video that will be available on the conference platform, allowing attendees to watch content and ask questions asynchronously.

This comprehensive program is included in the Proceedings and Extended Abstracts of the conference. As with previous years, there are two fundamental categories of contributions that go to the ACM Digital Library: Papers and Extended Abstracts. Papers are the most rigorously peer reviewed and are considered the most prestigious material presented at the conference. The remaining categories of work are collected in the Extended Abstracts. These include juried and curated contributions, evaluated by experts in the field, and reflect the breadth of research, design, education, artistic, scientific exploration and engineering activity within the HCI community.

Making this program possible was a challenging and rewarding experience, involving the work of thousands of volunteers. For papers, we received 2,579 submissions (the 2021 conference received 2,845) which were rigorously reviewed, resulting in 637 accepted papers at a 24.7% acceptance rate. At CHI this year, we will also have 258 late-breaking works from 722 submissions; 15 alt.chi from 34 submissions; 39 interactivity works from 61 submissions; 33 case studies from 96 submissions; 50 workshops/symposia from 81 submissions; 13 SIGs from 23 submissions; 10 panels from 19 submissions; and 27 courses from 28 submissions. In addition, 58 journal papers will be presented at the conference. Finally, we will have 23 students presenting their work at the doctoral consortium from 40 submissions; 9 student research competition works from 15 submissions; 7 student game competition works from 11 submissions; and 8 student design competition works from 20 submissions.

The most important change this year is that the selection of CHI papers included a revise and resubmit phase to the review process. This was organized in two rounds, giving some authors the opportunity to submit a revised version of their manuscript after having received feedback from reviewers. The interactivity chairs also invited authors of demos that were already published in the proceedings of an ACM conference but that had never got the chance to be presented as live, on site demos due to the pandemic. These demos are not included in these proceedings as they do not have a new entry in the ACM Digital Library but they will run live in the New Orleans Convention Center.

As always, we would like to warmly thank the members of the conference organizing committee, the members of the program committee who wrote many reviews and discussed papers at length, and the abundance of external reviewers across many of the conference tracks. In total, 11,199 reviews were written for the CHI papers track alone. We would like to thank the SIGCHI Operations team for processing and uploading all of the talk videos and previews across most of our content. We also wish to very sincerely thank our CHI Publications team. They have made a tremendous amount of work, and the production of these proceedings would never have been possible without them.

Finally, thanks to everyone who contributed to the program – your work is highly appreciated! We hope you enjoy the technical program and that it inspires you!

Caroline Appert *(Université Paris-Saclay, France)*
David A. Shamma *(Toyota Research Institute, USA)*
Technical Program Chairs, CHI 2022

Dominic DiFranzo *(Lehigh University, USA)*
Hugo Romat *(Microsoft, USA)*
Assistants to the Technical Program Chairs, CHI 2022

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Molly Jane Nicholas *(Microsoft Research, UC Berkeley)*
Teddy Seyed *(Microsoft Research)*
Hugo Romat *(Microsoft)*
Bongshin Lee *(Microsoft Research)*
Michel Pahud *(Microsoft Research)*
Jonathan Goldstein *(Microsoft Research)*
Rojin Vishkaie *(Arizona State University)*
Christian Holz *(ETH Zürich)*
Ken Hinckley *(Microsoft Research)*

Papers: Tools for Programmers/Developers

Paper65: **ScalAR: Authoring Semantically Adaptive Augmented Reality Experiences in Virtual Reality**

Xun Qian *(Purdue University)*
Fengming He *(Purdue University)*
Xiyun Hu *(Purdue University)*
Tianyi Wang *(Purdue University)*
Ananya Ipsita *(Purdue University)*
Karthik Ramani *(Purdue University)*

Paper66: **An Exploratory Study of Sharing Strategic Programming Knowledge**

Maryam Arab *(George Mason University)*
Thomas LaToza *(George Mason University)*
Jenny Liang *(University of Washington)*
Amy Ko *(University of Washington)*

Paper67: **Learning to Denoise Raw Mobile UI Layouts for Improving Datasets at Scale**

Gang Li *(Google Research)*
Gilles Baechler *(Google Research)*
Manuel Tragut *(Google)*
Yang Li *(Google Research)*

Paper68: **Crystalline: Lowering the Cost for Developers to Collect and Organize Information for Decision Making**

Michael Xieyang Liu *(Carnegie Mellon University)*
Aniket Kittur *(Carnegie Mellon University)*
Brad Myers *(Carnegie Mellon University)*

Paper69: **Understanding How Programmers Can Use Annotations on Documentation**

Amber Horvath *(Carnegie Mellon University, Carnegie Mellon University)*
Michael Xieyang Liu *(Human-Computer Interaction Institute, Human-Computer Interaction Institute)*
River Hendriksen *(University of Pittsburgh, University of Pittsburgh)*
Connor Shannon *(Carnegie Mellon University, Carnegie Mellon University)*
Emma Paterson *(Tufts University)*
Kazi Jawad *(Carnegie Mellon University, Carnegie Mellon University)*
Andrew Macvean *(Google, Google)*
Brad Myers *(Carnegie Mellon University, Carnegie Mellon University)*

Papers: Users' Preferences and Needs

Paper70: **How to Save Lives With Microblogs? Lessons From the Usage of Weibo for Requests for Medical Assistance During COVID-19**

Wenjie Yang *(The Hong Kong University of Science and Technology, The Hong Kong University of Science and Technology)*
Zhiyang WU *(Hong Kong University of Science and Technology, Hong Kong University of Science and Technology)*

Nga Yiu Mok *(Hong Kong University of Science and Technology, Hong Kong University of Science and Technology)*
Xiaojuan Ma *(Hong Kong University of Science and Technology, Hong Kong University of Science and Technology)*

Paper71: **How Much Do Platform Workers Value Reviews? An Experimental Method**
David Holtz *(University of California, Berkeley, Massachusetts Institute of Technology)*
Liane Scult *(Microsoft Corporation)*
Siddharth Suri *(Microsoft Research)*

Paper72: **Studying How Digital Luthiers Choose Their Tools**
Nathan Renney *(University of West of England)*
Benedict Gaster *(University of West of England)*
Tom Mitchell *(UWE Bristol)*
Harri Renney *(University of the West of England)*

Paper73: **A Systematic Review and Thematic Analysis of Community-Collaborative Approaches to Computing Research**
Ned Cooper *(Australian National University)*
Tiffanie Horne *(Google LLC (via Pro Unlimited))*
Gillian Hayes *(University of California, Irvine)*
Courtney Heldreth *(Google)*
Michal Lahav *(Google)*
Jess Holbrook *(Google)*
Lauren Wilcox *(Google)*

Paper74: **A Personalized Visual Aid for Selections of Appearance Building Products with Long-term Effects**
Chuhan Shi *(Hong Kong University of Science and Technology)*
Zhihan Jiang *(The University of Hong Kong)*
Xiaojuan Ma *(Hong Kong University of Science and Technology)*
Qiong Luo *(the Hong Kong University of Science and Technology)*

Papers: COVID Technologies

Paper75: **Public Views on Digital COVID-19 Certificates: a Mixed Methods User Study**
Leysan Nurgalieva *(Aalto University)*
Seamus Ryan *(Trinity College Dublin)*
Andreas Balaskas *(Trinity College Dublin)*
Janne Lindqvist *(Aalto University)*
Gavin Doherty *(Trinity College Dublin)*

Paper76: **Supporting the Contact Tracing Process with WiFi Location Data: Opportunities and Challenges**
Kaely Hall *(Georgia Institute of Technology)*
Dong Whi Yoo *(Georgia Institute of Technology)*
Wenrui Zhang *(Georgia Institute of Technology)*
Mehrab Bin Morshed *(Georgia Institute of Technology)*
Vedant Das Swain *(Georgia Institute of Technology)*
Gregory Abowd *(Northeastern University)*
Munmun De Choudhury *(Georgia Institute of Technology)*
Alex Endert *(Georgia Institute of Technology)*
John Stasko *(Georgia Institute of Technology)*
Jennifer Kim *(Georgia Institute of Technology)*

Paper77: **Does Mode of Digital Contact Tracing Affect User Willingness to Share Information? A Quantitative Study**
Camellia Zakaria *(University of Massachusetts Amherst)*
Pin Sym Foong *(National University of Singapore)*
Chang Siang Lim *(Singapore ETH Center)*
Pavithren V. S. Pakianathan *(National University of Singapore)*
Gerald Huat Choon Koh *(National University of Singapore)*
Simon Perrault *(Singapore University of Technology and Design)*

Paper78: **Shifting Trust: Examining How Trust and Distrust Emerge, Transform, and Collapse in COVID-19 Information Seeking**

Yixuan Zhang *(Georgia Institute of Technology)*
Nurul Suhaimi *(Northeastern University)*
Nutchanon Yongsatianchot *(Northeastern University)*
Joseph Gaggiano *(Georgia Institute of Technology)*
Miso Kim *(Northeastern University)*
Shivani Patel *(Emory University)*
Yifan Sun *(William & Mary)*
Stacy Marsella *(Northeastern University)*
Jacqueline Griffin *(Northeastern University)*
Andrea Parker *(Georgia Tech, Emory University)*

Paper79: **Unpacking Intention and Behavior: Explaining Contact Tracing App Adoption and Hesitancy in the United States**

Jack Jamieson *(NTT)*
Daniel Epstein *(University of California, Irvine)*
Yunan Chen *(University of California Irvine)*
Naomi Yamashita *(NTT)*

Papers: Vis Right Here, Right Now

Paper80: **Annotating Line Charts for Addressing Deception**

Arlen Fan *(Arizona State University)*
Yuxin Ma *(Southern University of Science and Technology)*
Michelle Mancenido *(Arizona State Unversity)*
Ross Maciejewski *(Arizona State University)*

Paper81: **Making Data Tangible: A Cross-disciplinary Design Space for Data Physicalization**

S. Sandra Bae *(University of Colorado Boulder)*
Clement Zheng *(National University of Singapore)*
Mary West *(University of Colorado Boulder)*
Ellen Yi-Luen Do *(University of Colorado Boulder)*
Samuel Huron *(Télécom Paristech, Université Paris-Saclay)*
Danielle Szafir *(University of Colorado, University of North Carolina-Chapel Hill)*

Paper82: **Put a Label On It! Approaches for Constructing and Contextualizing Bar Chart Physicalizations**

Kim Sauvé *(Lancaster University)*
Argenis Ramirez Gomez *(University of Portsmouth)*
Steven Houben *(Eindhoven University of Technology)*

Paper83: **Visualization Accessibility in the Wild: Challenges Faced by Visualization Designers**

Shakila Cherise Joyner *(Boston College)*
Amalia Riegelhuth *(Boston College)*
Kathleen Garrity *(Boston College)*
Yea-Seul Kim *(University of Wisconsin-Madison)*
Nam Wook Kim *(Boston College)*

Paper84: **The Pattern is in the Details: An Evaluation of Interaction Techniques for Locating, Searching, and Contextualizing Details in Multivariate Matrix Visualizations**

Yalong Yang *(Virginia Tech)*
Wenyu Xia *(Carnegie Mellon University)*
Fritz Lekschas *(Harvard University)*
Carolina Nobre *(Harvard University)*
Robert Krüger *(John A. Paulson School of Engineering and Applied Sciences at Harvard University)*
Hanspeter Pfister *(Harvard University)*

Papers: Games affect Players and Players affect Games

Paper85: **RoleSeer: Understanding Informal Social Role Changes in MMORPGs via Visual Analytics**
Laixin Xie *(ShanghaiTech University)*
Ziming Wu *(Hong Kong University of Science and Technology)*
Peng Xu *(Netease)*
Wei Li *(Eindhoven University of Technology)*
Xiaojuan Ma *(Hong Kong University of Science and Technology)*
Quan Li *(ShanghaiTech University)*

Paper86: **Including the Experiences of Physically Disabled Players in Mainstream Guidelines for Movement-Based Games**
Liam Mason *(University of lincoln, University of lincoln)*
Kathrin Gerling *(KU Leuven, KU Leuven)*
Patrick Dickinson *(University of Lincoln, University of Lincoln)*
Jussi Holopainen *(University of Lincoln, University of Lincoln)*
Lisa Jacobs *(University of Lincoln, University of Lincoln)*
Kieran Hicks *(University of Lincoln, University of Lincoln)*

Paper87: **Identifying Game Mechanics for Integrating Fabrication Activities within Existing Digital Games**
Dishita Turakhia *(MIT CSAIL)*
Stefanie Mueller *(MIT CSAIL)*
Kayla DesPortes *(New York University)*

Paper88: **I Don't Usually Listen, I Read: How Different Learner Groups Process Game Feedback**
Andrea Gauthier *(Institute of Education)*
Laura Benton *(University College London)*
Leona Bunting *(University of Gothenburg)*
Elisabeth Herbert *(UCL)*
Emma Sumner *(UCL)*
Manolis Mavrikis *(UCL Knowledge Lab)*
Andrea Revesz *(University College London)*
Asimina Vasalou *(University College London)*

Papers: Video for Learning

Paper89: **Does Dynamically Drawn Text Improve Learning? Investigating the Effect of Text Presentation Styles in Video Learning**
Ashwin Ram *(National University of Singapore)*
Shengdong Zhao *(National University of Singapore)*

Paper90: **Visualizing Instructions for Physical Training: Exploring Visual Cues to Support Movement Learning from Instructional Videos**
Alessandra Semeraro *(Uppsala University)*
Laia Turmo Vidal *(Uppsala University)*

Paper91: **immersivePOV: Filming How-To Videos with a Head-Mounted 360° Action Camera**
Kevin Huang *(University of Toronto, Simon Fraser University)*
Jiannan Li *(University of Toronto)*
Mauricio Sousa *(University of Toronto)*
Tovi Grossman *(University of Toronto)*

Paper92: **Mobile-Friendly Content Design for MOOCs: Challenges, Requirements, and Design Opportunities**
Jeongyeon Kim *(KAIST)*
Yubin Choi *(KAIST)*
Meng Xia *(KAIST)*
Juho Kim *(KAIST)*

Papers: Interacting with Data

Paper93: **OneLabeler: A Flexible System for Building Data Labeling Tools**
Yu Zhang *(University of Oxford)*
Yun Wang *(Microsoft Research Asia)*
Haidong Zhang *(Microsoft Research Asia)*
Bin Zhu *(Microsoft Research Asia)*
Siming Chen *(Fudan University)*
Dongmei Zhang *(Microsoft Research Asia)*

Paper94: **graphiti: Sketch-based Graph Analytics for Images and Videos**
Nazmus Saquib *(Tero Labs, MIT Media Lab)*
Faria Huq *(Tero Labs)*
Syed Arefinul Haque *(Northeastern University)*

Paper95: **CrossData: Leveraging Text-Data Connections for Authoring Data Documents**
Zhutian Chen *(University of California San Diego)*
Haijun Xia *(University of California, San Diego)*

Paper96: **Promptiverse: Scalable Generation of Scaffolding Prompts Through Human-AI Hybrid Knowledge Graph Annotation**
Yoonjoo Lee *(KAIST)*
John Chung *(University of Michigan)*
Tae Soo Kim *(KAIST)*
Jean Song *(DGIST)*
Juho Kim *(KAIST)*

Paper97: **Diff in the Loop: Supporting Data Comparison in Exploratory Data Analysis**
April Wang *(University of Michigan)*
Will Epperson *(Carnegie Mellon University)*
Robert DeLine *(Microsoft Corp)*
Steven Drucker *(Microsoft Research)*

Papers: Making and Unmaking

Paper98: **Weaving Stories: Toward Repertoires for Designing Things**
Doenja Oogjes *(Simon Fraser University)*
Ron Wakkary *(Simon Fraser University, Eindhoven University of Technology)*

Paper99: **Flavorium: An Exploration of Flavobacteria's Living Aesthetics for Living Color Interfaces**
Eduard Groutars *(Avans University of Applied Sciences, Delft University of Technology)*
Carmen Risseeuw *(Delft University of Technology, Avans University of Applied Sciences)*
Colin Ingham *(Hoekmine BV)*
Raditijo Hamidjaja *(Hoekmine B.V.)*
Willemijn Elkhuizen *(Delft University of Technology)*
Sylvia Pont *(Delft University of Technology)*
Elvin Karana *(Delft University of Technology, Avans University of Applied Sciences)*

Paper100: **Towards Decomposable Interactive Systems: Design of a Backyard-Degradable Wireless Heating Interface**
Katherine Song *(Accenture Labs, UC Berkeley)*
Aditi Maheshwari *(Accenture Labs)*
Eric Gallo *(Accenture)*
Andreea Danielescu *(Accenture Labs)*
Eric Paulos *(UC Berkeley)*

Paper101: **The Eco-Technical Interface: Attuning to the Instrumental**
Maya Livio *(University of Colorado)*
Laura Devendorf *(University of Colorado Boulder)*

Papers: Privacy, Policy and Politics

Paper102: **Many Islands, Many Problems: An Empirical Examination of Online Safety Behaviors in the Caribbean**
Daricia Wilkinson *(Clemson University)*
Bart Knijnenburg *(Clemson University)*

Paper103: **Are deepfakes concerning? Exploring societal implications of deepfake conversations in Reddit**
Dilrukshi Gamage *(Tokyo Insitute of Technology)*
Piyush Ghasiya *(Tokyo Insititute of Technology)*
Vamshi Bonagiri *(International Institute of Information Technology)*
Mark Whiting *(University of Pennsylvania)*
Kazutoshi Sasahara *(Tokyo Institute of Technology)*

Paper104: **Caught in the Network: The Impact of WhatsApp's 2021 Privacy Policy Update on Users' Messaging App Ecosystems**
Carla Griggio *(Aarhus University)*
Midas Nouwens *(Aarhus University)*
Clemens Klokmose *(Aarhus University)*

Paper105: **"Ask this from the person who has private stuff": Privacy Perceptions, Behaviours and Beliefs Beyond W.E.I.R.D**
Sheza Naveed *(Lahore University of Management Sciences)*
Hamza Naveed *(Lahore University of Management Sciences)*
Mobin Javed *(LUMS)*
Maryam Mustafa *(Lahore University of Management Sciences)*

Paper106: **Human-GDPR Interaction: Practical Experiences of Accessing Personal Data**
Alex Bowyer *(Newcastle University)*
Jack Holt *(Newcastle University)*
Josephine Go Jefferies *(Newcastle University)*
Rob Wilson *(Northumbria University)*
David Kirk *(Newcastle University)*
Jan Smeddinck *(Newcastle University)*

Papers: Let's get Physical

Paper107: **XR-OOM: MiXed Reality driving simulation with real cars for research and design**
David Goedicke *(Cornell Tech)*
Alexandra Bremers *(Cornell Tech)*
Sam Lee *(Cornell Tech)*
Fanjun Bu *(Cornell Tech)*
Hiroshi Yasuda *(Toyota Research Institute)*
Wendy Ju *(Cornell Tech)*

Paper108: **ControllerPose: Inside-Out Body Capture with VR Controller Cameras**
Karan Ahuja *(Carnegie Mellon University)*
Vivian Shen *(Carnegie Mellon University)*
Cathy Mengying Fang *(Carnegie Mellon University)*
Nathan Riopelle *(Human-Computer Interaction Institute, Carnegie Mellon University)*
Andy Kong *(Carnegie Mellon University)*
Chris Harrison *(Carnegie Mellon University)*

Paper109: **Enabling Tangible Interaction on Non-touch Displays with Optical Mouse Sensor and Visible Light Communication**
Yihui Yan *(ShanghaiTech University)*
Zezhe Huang *(ShanghaiTech University)*
Feiyang Xudu *(ShanghaiTech University)*
Zhice Yang *(ShanghaiTech University)*

Paper110: **Embr: A Creative Framework for Hand Embroidered Liquid Crystal Textile Displays**
Shreyosi Endow *(University of Texas at Arlington)*

Mohammad Abu Nasir Rakib *(University of Texas at Arlington)*
Anvay Srivastava *(University of Texas at Arlington)*
Sara Rastegarpouyani *(Savannah College of Art and Design)*
Cesar Torres *(UT Arlington)*

Paper111: **ASTEROIDS: Exploring Swarms of Mini-Telepresence Robots for Physical Skill Demonstration**
Jiannan Li *(University of Toronto)*
Mauricio Sousa *(University of Toronto)*
Chu Li *(University of Toronto)*
Jessie Liu *(University of Toronto)*
Yan Chen *(University of Toronto)*
Ravin Balakrishnan *(University of Toronto)*
Tovi Grossman *(University of Toronto)*

Papers: Agents in the Loop

Paper112: **Investigating Positive and Negative Qualities of Human-in-the-Loop Optimization for Designing Interaction Techniques**
Liwei Chan *(National Chiao Tung University)*
Yi-Chi Liao *(Aalto University)*
George Mo *(University of Cambridge)*
John Dudley *(University of Cambridge)*
Chun-Lien Cheng *(National Chiao Tung University)*
Per Ola Kristensson *(University of Cambridge)*
Antti Oulasvirta *(Aalto University)*

Paper113: **For What It's Worth: Humans Overwrite Their Economic Self-Interest to Avoid Bargaining With AI Systems**
Alexander Erlei *(University of Goettingen)*
Richeek Das *(Indian Institute of Technology Bombay)*
Lukas Meub *(University of Goettingen)*
Avishek Anand *(Leibniz Universität Hannover)*
Ujwal Gadiraju *(Delft University of Technology)*

Paper114: **You Complete Me: Human-AI Teams and Complementary Expertise**
Qiaoning Zhang *(University of Michigan-Ann Arbor)*
Matthew Lee *(Toyota Research Institute)*
Scott Carter *(Toyota Research Institute)*

Paper115: **Jury Learning: Integrating Dissenting Voices into Machine Learning Models**
Mitchell Gordon *(Stanford University)*
Michelle Lam *(Stanford University)*
Joon Sung Park *(Stanford University)*
Kayur Patel *(Apple Inc)*
Jeff Hancock *(Stanford University)*
Tatsunori Hashimoto *(Stanford University)*
Michael Bernstein *(Stanford University)*

Paper116: **What is Your Current Mindset? Categories for a satisficing exploration of mobile point-of-interest recommendations**
Sruthi Viswanathan *(NAVER LABS Europe)*
Behrooz Omidvar-Tehrani *(NAVER LABS Europe)*
Jean-Michel Renders *(NAVER LABS Europe)*

Papers: Helping People

Paper117: **Designing and Assessing a Virtual Reality Simulation to Build Resilience to Street Harassment**
Crescent Jicol *(University of Bath)*
Julia Feltham *(University of Bath)*

Jinha Yoon *(University of Bath)*
Michael Proulx *(University of Bath)*
Eamonn O'Neill *(University of Bath)*
Christof Lutteroth *(University of Bath)*

Paper118: **(Re)discovering the Physical Body Online: Strategies and Challenges to Approach Non-Cisgender Identity in Social Virtual Reality**
Guo Freeman *(Clemson University)*
Divine Maloney *(Clemson University)*
Dane Acena *(Clemson University)*
Catherine Barwulor *(Clemson University)*

Paper119: **This App is not for Me: Using Mobile and Wearable Technologies to Improve Adolescents' Smartphone Addiction through the Sharing of Personal Data with Parents**
Pin-Chieh Chen *(National Tsing Hua University)*
Min-Wei Hung *(National Tsing Hua University)*
Hsueh-Sung Lu *(National Tsing Hua University)*
Chien Wen (Tina) Yuan *(National Taiwan Normal University)*
Nanyi Bi *(National Taiwan University)*
Wan-Chen Lee *(Taipei City Hospital Songde Branch)*
Ming-Chyi Huang *(Taipei City Hospital Songde Branch)*
Chuang-Wen You *(National Tsing Hua University)*

Paper120: **Unpacking Invisible Work Practices, Constraints, and Latent Power Relationships in Child Welfare through Casenote Analysis**
Devansh Saxena *(Marquette University)*
Erina Seh-Young Moon *(University of Toronto)*
Dahlia Shehata *(University of Waterloo)*
Shion Guha *(University of Toronto)*

Papers: Socio-technical aspects of cybercrime

Paper121: **"It's common and a part of being a content creator": Understanding How Creators Experience and Cope With Hate and Harassment Online**
Kurt Thomas *(Google)*
Patrick Kelley *(Google)*
Sunny Consolvo *(Google)*
Patrawat Samermit *(Google)*
Elie Bursztein *(Google)*

Paper122: **A Large-Scale Measurement of Cybercrime Against Individuals**
Casey Breen *(University of California, Berkeley)*
Cormac Herley *(Microsoft Research)*
Elissa Redmiles *(Max Planck Institute for Software Systems)*

Paper123: **Care Infrastructures for Digital Security in Intimate Partner Violence**
Emily Tseng *(Cornell Tech)*
Mehrnaz Sabet *(Cornell University)*
Rosanna Bellini *(Cornell Tech)*
Harkiran Sodhi *(Cornell Tech)*
Thomas Ristenpart *(Cornell Tech)*
Nicola Dell *(Cornell Tech)*

Paper124: **How to Get Away with Cyberattacks: An Argumentative Approach to Cyberattacks' Legitimization by Common Users**
Anna Spagnolli *(University of Padova)*
Mariavittoria Masotina *(University of Padova)*
Annalorena Scarcia *(University of Padova)*
Beatrice Zuffi *(University of Padova)*

Luciano Gamberini *(University of Padova)*

Papers: Crowdwork & Collaboration

Paper125: **Templates and Trust-o-meters: Towards a widely deployable indicator of trust in Wikipedia**
Andrew Kuznetsov *(Carnegie Mellon University)*
Margeigh Novotny *(Wikimedia Foundation)*
Jessica Klein *(Wikimedia Foundation)*
Diego Saez-Trumper *(Wikimedia Foundation)*
Aniket Kittur *(Carnegie Mellon University)*

Paper126: **ARMY's Magic Shop: Understanding the Collaborative Construction of Playful Places in Online Communities**
Kathryn Ringland *(University of California, Santa Cruz)*
Arpita Bhattacharya *(University of California, Irvine)*
Kevin Weatherwax *(University of California, Santa Cruz)*
Tessa Eagle *(UC Santa Cruz)*
Christine Wolf *(Independent Researcher)*

Paper127: **Re-imagining the Power of Priming and Framing Effects in the Context of Political Crowdfunding Campaigns**
Sanorita Dey *(University of Maryland Baltimore County)*
Brittany Duff *(University of Illinois at Urbana-Champaign)*
Karrie Karahalios *(University of Illinois at Urbana-Champaign)*

Paper128: **The social embeddedness of peer production: A comparative qualitative analysis of three Indian language Wikipedia editions**
Sejal Khatri *(University of Washington)*
Aaron Shaw *(Northwestern University)*
Sayamindu Dasgupta *(University of North Carolina at Chapel Hill)*
Benjamin Mako Hill *(University of Washington, Harvard University)*

Paper129: **Compete, Collaborate, Investigate: Exploring the Social Structures of Open Source Intelligence Investigations**
Yasmine Belghith *(Georgia Institute of Technology)*
Sukrit Venkatagiri *(Virginia Tech)*
Kurt Luther *(Virginia Tech)*

Papers: Design and Mixed Reality

Paper130: **ProGesAR: Mobile AR Prototyping for Proxemic and Gestural Interactions with Real-world IoT Enhanced Spaces**
Hui Ye *(City University of Hong Kong)*
Hongbo Fu *(City University of Hong Kong)*

Paper131: **ExposAR: Bringing Augmented Reality to the Computational Thinking Agenda through a Collaborative Authoring Tool**
Mille Skovhus Lunding *(Aarhus University)*
Jens Emil Grønbæk *(Aarhus University)*
Karl-Emil Bilstrup *(Aarhus University)*
Marie-Louise Sørensen *(Aarhus University)*
Marianne Graves Petersen *(Aarhus University)*

Paper132: **The Normal Natural Troubles of Virtual Reality in Mixed-Reality Performances**
Asreen Rostami *(RISE Research Institutes of Sweden, Stockholm University)*
Donald McMillan *(Stockholm University)*

Paper133: **Virtual Transcendent Dream: Empowering People through Embodied Flying in VR**
Pinyao Liu *(Simon Fraser University)*
Ekaterina Stepanova *(Simon Fraser University)*

Alexandra Kitson *(Simon Fraser University)*
Thecla Schiphorst *(Simon Fraser University)*
Bernhard Riecke *(Simon Fraser University)*

Papers: Visual Perception & Exploration

Paper134: **Accessibility for Color Vision Deficiencies: Challenges and Findings of a Large Scale Study on Paper Figures**
Katrin Angerbauer *(University of Stuttgart)*
Nils Rodrigues *(University of Stuttgart)*
Rene Cutura *(University of Stuttgart)*
Seyda Öney *(University of Stuttgart)*
Nelusa Pathmanathan *(University of Stuttgart)*
Cristina Morariu *(VISUS)*
Daniel Weiskopf *(University of Stuttgart)*
Michael Sedlmair *(University of Stuttgart)*

Paper135: **GAN'SDA Wrap: Geographic And Network Structured DAta on surfaces that Wrap around**
Kun-Ting Chen *(Monash University, Monash University)*
Tim Dwyer *(Monash University, Monash University)*
Yalong Yang *(Virginia Tech, Virginia Tech)*
Benjamin Bach *(University of Edinburgh, University of Edinburgh)*
Kim Marriott *(Monash University, Monash University)*

Paper136: **Understanding Visual Investigation Patterns Through Digital "Field" Observations**
Irene Rae *(Google)*
Feng Zhou *(Google)*
Martin Bilsing *(Google)*
Philipp Bunge *(Google)*

Paper137: **Investigating Perceptual Biases in Icon Arrays**
Cindy Xiong *(University of Massachusetts Amherst)*
Ali Sarvghad *(University of Massachusetts Amherst)*
Daniel Goldstein *(Microsoft Research)*
Jake Hofman *(Microsoft Research)*
Çağatay Demiralp *(Sigma Computing)*

Paper138: **Juvenile Graphical Perception: A Comparison between Children and Adults**
Liudas Panavas *(Northeastern University)*
Amy Worth *(Ivy After School Program)*
Tarik Crnovrsanin *(Northeastern University)*
Tejas Sathyamurthi *(Northeastern University)*
Sara Cordes *(Boston College)*
Michelle Borkin *(Northeastern University)*
Cody Dunne *(Northeastern University)*

Papers: Connection

Paper139: **Strategies for Fostering a Genuine Feeling of Connection in Technologically Mediated Systems**
Ekaterina Stepanova *(Simon Fraser University)*
John Desnoyers-Stewart *(Simon Fraser University)*
Kristina Höök *(KTH Royal Institute of Technology)*
Bernhard Riecke *(Simon Fraser University)*

Paper140: **Exploring uncertainty in digital scheduling, and the wider implications of unrepresented temporalities in HCI**
Ryan Bowler *(The University of Edinburgh , The University of Edinburgh)*
Benjamin Bach *(University of Edinburgh, University of Edinburgh)*

Larissa Pschetz *(University of Edinburgh, University of Edinburgh)*

Paper141: **Distracting Moments in Videoconferencing: A Look Back at the Pandemic Period**
Minha Lee *(KAIST)*
Wonyoung Park *(KAIST)*
Sunok Lee *(KAIST)*
Sangsu Lee *(KAIST)*

Paper142: **Reflection in Theory and Reflection in Practice: An Exploration of the Gaps in Reflection Support among Personal Informatics Apps**
Janghee Cho *(University of Colorado, Boulder)*
Tian Xu *(University of Colorado Boulder)*
Abigail Zimmermann-Niefield *(University of Colorado Boulder)*
Stephen Voida *(University of Colorado)*

Paper143: **Zoom Obscura: Counterfunctional Design for Video-Conferencing**
Chris Elsden *(University of Edinburgh)*
David Chatting *(Goldsmiths, University of London)*
Michael Duggan *(Kings College London)*
Andrew Dwyer *(Durham University)*
Pip Thornton *(University of Edinburgh)*

Papers: Deviance Online

Paper144: **Perceiving Affordances Differently: The Unintended Consequences When Young Autistic Adults Engage with Social Media**
Xinru Page *(Brigham Young University)*
Andrew Capener *(Brigham Young University)*
Spring Cullen *(Brigham Young University)*
Tao Wang *(University of California Irvine)*
Monica Garfield *(Bentley University)*
Pamela Wisniewski *(University of Central Florida)*

Paper145: **The Polyvocality of Online COVID-19 Vaccine Narratives that Invoke Medical Racism**
Lindsay Diamond *(University of Colorado Boulder)*
Hande Batan *(University of Colorado Boulder)*
Jennings Anderson *(University of Colorado Boulder)*
Leysia Palen *(University of Colorado Boulder)*

Paper146: **Sensemaking, Support, Safety, Retribution, Transformation: Understanding Adolescents' Needs for Addressing Online Harm**
Sijia Xiao *(University of California, Berkeley)*
Coye Cheshire *(UC Berkeley)*
Niloufar Salehi *(UC, Berkeley)*

Paper147: **Sad or just jealous? Using Experience Sampling to Understand and Detect Negative Affective Experiences on Instagram**
Mintra Ruensuk *(UNIST)*
Taewan Kim *(KAIST)*
Hwajung Hong *(KAIST)*
Ian Oakley *(UNIST)*

Paper148: **Understanding the Digital Lives of Youth: Analyzing Media Shared within Safe Versus Unsafe Private Conversations on Instagram**
Shiza Ali *(Boston University)*
Afsaneh Razi *(University of Central Florida)*
Seunghyun Kim *(Georgia Institute of Technology)*
Ashwaq Alsoubai *(University of Central Florida)*

Joshua Gracie *(University of Central Florida)*
Munmun De Choudhury *(Georgia Institute of Technology)*
Pamela Wisniewski *(University of Central Florida)*
Gianluca Stringhini *(Boston University)*

Papers: Children and Learning

Paper149: **The Last Decade of HCI Research on Children and Conversational Agents**
Radhika Garg *(Syracuse University)*
Hua Cui *(Syracuse University)*
Spencer Seligson *(Syracuse University)*
Bo Zhang *(Syracuse University)*
Martin Porcheron *(Swansea University)*
Leigh Clark *(Swansea University)*
Benjamin Cowan *(University College Dublin)*
Erin Beneteau *(University of Washington)*

Paper150: **Participatory Design Goes to School: Co-Teaching as a Form of Co-Design for Educational Technology**
Rebecca Nicholson *(Newcastle University)*
Tom Bartindale *(Monash University)*
Ahmed Kharrufa *(Newcastle University)*
David Kirk *(Newcastle University)*
Professor Caroline Walker-Gleaves *(Newcastle University)*

Paper151: **The Unboxing Experience: Exploration and Design of Initial Interactions Between Children and Social Robots**
Christine Lee *(University of Wisconsin-Madison)*
Bengisu Cagiltay *(University of Wisconsin - Madison)*
Bilge Mutlu *(University of Wisconsin-Madison)*

Paper152: **"It Would Be Cool to Get Stampeded by Dinosaurs": Analyzing Children's Conceptual Model of AR Headsets Through Co-Design**
Julia Woodward *(University of Florida)*
Feben Alemu *(University of Washington)*
Natalia López Adames *(University of Puerto Rico)*
Lisa Anthony *(University of Florida)*
Jason Yip *(University of Washington)*
Jaime Ruiz *(University of Florida)*

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Gabe Clapper *(Google Research)*
Azhagu Meena SP *(Google Research)*
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Anna Kawakami *(Carnegie Mellon University)*
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Yanghuidi Cheng *(Carnegie Mellon University)*
Diana Qing *(University of California, Berkeley)*
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Anam Ahmad Khan *(The University of Melbourne)*
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Dominic Kao *(Purdue University)*
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Radhika Garg *(Syracuse University)*

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Mehul Arora *(Stanford University)*
Aman Malhotra *(Stanford University)*
Robert Flory *(Intel)*
Stephanie Hu *(Stanford University)*
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Ishan Goyal *(Stanford University)*
Jacqueline Nguyen *(Stanford University)*
John Hegarty *(Stanford University)*
Marlo Kohn *(Stanford University)*
David Schneider *(Stanford University)*
Heather Culbertson *(University of Southern California)*
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Liang He *(University of Washington)*
Fangli Song *(School of design)*
Yifan Li *(Georgia Institute of Technology)*
Tingyu Cheng *(Interactive Computing)*
Clement Zheng *(National University of Singapore)*
Wei Wang *(Hunan University)*
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Humphrey Yang *(Carnegie Mellon University)*
Tate Johnson *(Carnegie Mellon University)*
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Dinesh Patel *(Carnegie Mellon University)*
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Carmel Majidi *(Carnegie Mellon University)*
Mohammad Islam *(Materials Science and Engineering)*
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Jung Wook Park *(Georgia Institute of Technology, Georgia Institute of Technology)*
Jiachen Li *(Georgia Institute of Technology, Georgia Institute of Technology)*
Charles Ramey *(Georgia Institute of Technology, Georgia Institute of Technology)*
Hongnan Lin *(Georgia Institute of Technology , Georgia Institute of Technology)*
Gregory Abowd *(Northeastern University, Northeastern University)*
Carolina Brum Medeiros *(Flipr Sensing, Flipr Sensing)*
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Marcello Giordano *(Facebook Reality Labs, Facebook Reality Labs)*

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Daniela Mitterberger *(ETH Zurich)*
Selen Ercan Jenny *(ETH Zurich)*
Lauren Vasey *(ETH Zurich)*
Ena Lloret-Fritschi *(ETH Zurich)*
Petrus Aejmelaeus-Lindström *(ETH Zurich)*
Fabio Gramazio *(ETH Zurich)*
Matthias Kohler *(ETH Zurich)*

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Kui Wu *(MIT)*
Andrew Spielberg *(Massachusetts Institute of Technology (MIT))*
Michael Foshey *(MIT)*
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Madeline Balaam *(KTH Royal Institute of Technology)*
Rob Comber *(KTH Royal Institute of Technology)*
Pedro Sanches *(ITI/Larsys, Umeå University)*

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Kristina Popova *(KTH Royal Institute of Technology)*
Rachael Garrett *(KTH Royal Institute of Technology)*
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Izabelle Janzen *(University of British Columbia)*
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Dagmar Kern *(GESIS - Leibniz-Institute for the Social Sciences)*
Daniel Hienert *(GESIS - Leibniz Institute for the Social Sciences)*
Yvonne Kammerer *(Hochschule der Medien)*
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Wencan Zhang *(School of Computing, National University of Singapore)*
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Christoph Lofi *(Delft University of Technology)*
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Lung-Pan Cheng *(National Taiwan University)*
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Marcel Zickler *(Technical University of Darmstadt)*
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Julia Abels *(Technical University of Darmstadt)*
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Roosa Piitulainen *(Aalto University)*
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Katja Rogers *(University of Waterloo, University of Waterloo)*
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Maximilian Altmeyer *(German Research Center for Artificial Intelligence (DFKI), Saarland Informatics Campus)*
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Lennart Nacke *(University of Waterloo, University of Waterloo)*

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Timea Farkas *(Goldsmiths, University of London)*
Alena Denisova *(City University of London)*
Sarah Wiseman *(Goldsmiths, University of London)*
Rebecca Fiebrink *(University of the Arts London, Goldsmiths University of London)*

Paper193: **Here Comes No Boom! The Lack of Sound Feedback Effects on Performance and User Experience in a Gamified Image Classification Task**
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Katja Rogers *(University of Waterloo, University of Waterloo)*
Pascal Lessel *(German Research Center for Artificial Intelligence (DFKI), Saarland Informatics Campus)*
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Thomas McHugh *(Northwestern University)*
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Cheul Young Park *(KAIST, KAIST)*
Narae Cha *(KAIST, KAIST)*
Auk Kim *(Kangwon National University, Kangwon National University)*
Uichin Lee *(KAIST, KAIST)*

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Alex Williams *(University of Tennessee, Knoxville)*
Jaime Teevan *(Microsoft)*
Shamsi Iqbal *(Microsoft Research)*

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Andrey Krekhov *(University of Duisburg-Essen)*
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Ava Bartolome *(Clark University)*
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Yue Yu *(National University of Defense Technology)*
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Chun Yu *(Tsinghua University, Tsinghua University)*
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Zheng Zhang *(University of Notre Dame)*
Ying Xu *(University of California, Irvine)*
Yanhao Wang *(Georgia Institute of Technology)*
Bingsheng Yao *(Rensselaer Polytechnic Institute)*
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Vali Lalioti *(University of the Arts London)*
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Chee Siang Ang *(University of Kent)*
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Jingyao Shao *(Human Centered Design and Engineering, University of Washington)*
Augustina Liu *(University of Washington)*
Lucy Jiang *(Human Centered Design and Engineering, University of Washington)*
Abigale Stangl *(University of Washington)*
Adam Fourney *(Microsoft Research)*
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Stefania Druga *(University of Washington)*
Fee Christoph *(University of Michigan)*

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Mike Horn *(Northwestern University)*
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Angela Fessl *(Know-Center research center for data-driven business and big data analytics, Graz University of Technology)*
Viktoria Pammer-Schindler *(Graz University of Technology, Know-Center GmbH)*

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Siling Guo *(Lenovo Research)*
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Felix Tener *(University of Haifa, University of Haifa)*
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Yudai Tanaka *(University of Chicago)*
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Severin Engert *(Technische Universität Dresden)*
Konstantin Klamka *(Technische Universität Dresden)*
Andreas Peetz *(Technische Universität Dresden, Technische Universität Dresden)*
Raimund Dachselt *(Technische Universität Dresden, Technische Universität Dresden)*

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Clara Caldeira *(Indiana University)*
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Christina Harrington *(Carnegie Mellon University)*
Aqueasha Martin-Hammond *(Indiana University - Purdue University Indianapolis)*
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Franklin Mingzhe Li *(Carnegie Mellon University)*
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Meng Xia *(KAIST)*
Mina Huh *(KAIST)*
Peter Cederberg *(Carnegie Mellon University)*
Yuqi Gong *(Carnegie Mellon University)*
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Oliver Alonzo *(Rochester Institute of Technology)*
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Wentao Lei *(Rochester Institute of Technology)*
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Michael Lu *(MIT CSAIL)*
Yunyi Zhu *(MIT CSAIL)*
Akshat Kumar *(MIT CSAIL)*
Aakar Gupta *(Facebook Inc)*
Stefanie Mueller *(MIT CSAIL)*

Paper270: **Print-A-Sketch: A Handheld Printer for Physical Sketching of Circuits and Sensors on Everyday Surfaces**
Narjes Pourjafarian *(Saarland University, Saarland Informatics Campus)*
Marion Koelle *(Saarland Informatics Campus)*
Fjolla Mjaku *(Saarland University, Saarland Informatics Campus)*
Paul Strohmeier *(Saarland Informatics Campus, Max Planck Insitute for Informatics, Saarland Informatics Campus)*
Jürgen Steimle *(Saarland University, Saarland Informatics Campus)*

Paper271: **FoolProofJoint: Reducing Assembly Errors of Laser Cut 3D Models by Means of Custom Joint Patterns**
Keunwoo Park *(Hasso Plattner Institute)*
Conrad Lempert *(Hasso Plattner Institute)*
Muhammad Abdullah *(Hasso Plattner Institute)*
Shohei Katakura *(Hasso Plattner Institute)*
Jotaro Shigeyama *(Hasso Plattner Institute)*
Thijs Roumen *(Hasso Plattner Institute)*
Patrick Baudisch *(Hasso Plattner Institute)*

Paper272: **Roman: Making Everyday Objects Robotically Manipulable with 3D-Printable Add-on Mechanisms**
Jiahao Li *(UCLA)*
Alexis Samoylov *(University of California, Los Angeles)*
Jeeeun Kim *(Texas A&M University)*
Xiang 'Anthony' Chen *(UCLA)*

Paper273: **Mobiot: Augmenting Everyday Objects into Moving IoT Devices Using 3D Printed Attachments Generated by Demonstration**
Abul Al Arabi *(Texas A&M University)*
Jiahao Li *(UCLA)*
Xiang 'Anthony' Chen *(UCLA)*
Jeeeun Kim *(Texas A&M University)*

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Paper274: **AirRes Mask: A Precise and Robust Virtual Reality Breathing Interface Utilizing Breathing Resistance as Output Modality**
Markus Tatzgern *(Salzburg University of Applied Sciences)*
Michael Domhardt *(Salzburg University of Applied Sciences)*
Martin Wolf *(Salzburg University of Applied Sciences)*
Michael Cenger *(Salzburg University of Applied Sciences)*
Gerlinde Emsenhuber *(Salzburg University of Applied Sciences)*
Radomir Dinic *(Salzburg University of Applied Sciences)*
Nathalie Gerner *(Paracelsus Medical University)*
Arnulf Hartl *(Paracelsus Medical University)*

Paper275: **Mouth Haptics in VR using a Headset Ultrasound Phased Array**
Vivian Shen *(Carnegie Mellon University)*
Craig Shultz *(Carnegie Mellon University)*
Chris Harrison *(Carnegie Mellon University)*

Paper276: **What Could Possibly Go Wrong When Interacting with Proactive Smart Speakers? A Case Study Using an ESM Application**

Jing Wei *(University of Melbourne)*
Benjamin Tag *(University of Melbourne)*
Johanne Trippas *(The University of Melbourne)*
Tilman Dingler *(University of Melbourne)*
Vassilis Kostakos *(University of Melbourne)*

Paper277: **Lattice Menu: A Low-Error Gaze-Based Marking Menu Utilizing Target-Assisted Gaze Gestures on a Lattice of Visual Anchors**

Taejun Kim *(School of Computing, KAIST)*
Auejin Ham *(KAIST)*
Sunggeun Ahn *(KAIST)*
Geehyuk Lee *(School of Computing, KAIST)*

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Minfan Zhang *(University of Toronto)*
Daniel Ehrmann *(Hospital for Sick Children)*
Mjaye Mazwi *(Hospital for Sick Children, Hospital for Sick Children)*
Danny Eytan *(Hospital for Sick Children)*
Marzyeh Ghassemi *(MIT)*
Fanny Chevalier *(University of Toronto)*

Paper279: **Prediction for Retrospection: Integrating Algorithmic Stress Prediction into Personal Informatics Systems for College Students' Mental Health**

Taewan Kim *(KAIST)*
Haesoo Kim *(KAIST)*
Ha Yeon Lee *(Seoul National University)*
Hwarang Goh *(Inha University)*
Shakhboz Abdigapporov *(Inha University)*
Mingon Jeong *(Hanyang University)*
Hyunsung Cho *(Carnegie Mellon University)*
Kyungsik Han *(Hanyang University)*
Youngtae Noh *(KENTECH)*
Sung-Ju Lee *(KAIST)*
Hwajung Hong *(KAIST)*

Paper280: **Exploring Perceptions of Cross-Sectoral Data Sharing with People with Parkinson's**

Roisin McNaney *(Monash University)*
Catherine Morgan *(University of Bristol)*
Pranav Kulkarni *(Monash University)*
Julio Vega *(University of Pittsburgh)*
Farnoosh Heidarivincheh *(University of Bristol)*
Ryan McConville *(University of Bristol)*
Alan Whone *(University of Bristol)*
Mickey Kim *(University of Bristol)*
Reuben Kirkham *(Monash University)*
Ian Craddock *(University of Bristol)*

Paper281: **Personal Dream Informatics: A Self-Information Systems Model of Dream Engagement**

Michael Hoefer *(University of Colorado Boulder)*
Bryce Schumacher *(University of Colorado Boulder)*
Stephen Voida *(University of Colorado Boulder)*

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Serena Midha *(University of Nottingham)*
Max Wilson *(University of Nottingham)*
Sarah Sharples *(University of Nottingham)*

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Anupriya Tuli *(IIIT-Delhi)*
Surbhi Singh *(Sachhi Saheli)*
Rikita Narula *(Sachhi Saheli)*
Neha Kumar *(Georgia Tech)*
Pushpendra Singh *(IIIT-Delhi)*

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Ville Mäkelä *(University of Waterloo, Bundeswehr University Munich)*
Jonas Winter *(LMU Munich)*
Jasmin Schwab *(Bundeswehr University Munich)*
Michael Koch *(Universität der Bundeswehr München)*
Florian Alt *(Bundeswehr University Munich)*

Paper285: **Understanding How eHealth Coaches Tailor Support For Weight Loss: Towards the Design of Person-Centered Coaching Systems**
Kathleen Ryan *(University College Cork, S3 Connected Health)*
Samantha Dockray *(University College Cork)*
Conor Linehan *(University College Cork)*

Paper286: **Embodied Negotiations, Practices and Experiences Interacting with Pregnancy Care Infrastructures in South India**
Naveen Bagalkot *(Srishti Institute of Art, Design, & Technology)*
Syeda Zainab Akbar *(Microsoft Research)*
Swati Sharma *(Srishti Institute of Art, Design, & Technology)*
Nicola Mackintosh *(University of Leicester)*
Deirdre Harrington *(University of Strathclyde)*
Paula Griffiths *(Loughborough University)*
Judith Angelitta Noronha *(Manipal Academy of Higher Education)*
Nervo Verdezoto *(Cardiff University)*

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Jiwan Kim *(UNIST, UNIST)*
Ian Oakley *(UNIST, UNIST)*

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Naoki Kimura *(The University of Tokyo)*
Tan Gemicioglu *(Georgia Institute of Technology)*
Jonathan Womack *(Georgia Institute of Technology)*
Yuhui Zhao *(Georgia Institute of Technology)*
Richard Li *(University of Washington)*
Abdelkareem Bedri *(Carnegie Mellon University)*
Zixiong Su *(The University of Tokyo)*
Alex Olwal *(Google Inc.)*
Jun Rekimoto *(The University of Tokyo)*
Thad Starner *(Georgia Institute of Technology)*

Paper289: **ReflecTouch: Detecting Grasp Posture of Smartphone Using Corneal Reflection Images**
Xiang Zhang *(Keio University)*
Kaori Ikematsu *(Yahoo Japan Corporation)*

Kunihiro Kato *(Tokyo University of Technology)*
Yuta Sugiura *(Keio University)*

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Yuntao Wang *(Tsinghua University)*
Jiexin Ding *(Tsinghua University)*
Ishan Chatterjee *(University of Washington)*
Farshid Salemi Parizi *(University of Washington)*
Yuzhou Zhuang *(Tsinghua University)*
Yukang Yan *(Tsinghua University)*
Shwetak Patel *(University of Washington)*
Yuanchun Shi *(Tsinghua University)*

Paper291: **More Errors vs. Longer Commands: The Effects of Repetition and Reduced Expressiveness on Input Interpretation Error, Learning, and User Preference**
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Madison Klarkowski *(University of Saskatchewan)*
Andy Cockburn *(University of Canterbury)*

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Tobias Wagner *(Ulm University)*
Jan Gugenheimer *(Institut Polytechnique de Paris)*
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Stine Johansen *(Aalborg University)*
Timothy Merritt *(Aalborg University)*
Rune Jacobsen *(Aalborg University)*
Peter Axel Nielsen *(Aalborg University)*
Jesper Kjeldskov *(Aalborg University)*

Paper294: **Do You See What I Hear? — Peripheral Absolute and Relational Visualisation Techniques for Sound Zones**
Rune Jacobsen *(Aalborg University)*
Niels van Berkel *(Aalborg University)*
Mikael B. Skov *(Aalborg University)*
Stine Johansen *(Aalborg University)*
Jesper Kjeldskov *(Aalborg University)*

Paper295: **Consent in the Age of AR: Investigating The Comfort With Displaying Personal Information in Augmented Reality**
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Mark Colley *(Ulm University)*
Ali Askari *(Ulm University)*
Jan Gugenheimer *(Institut Polytechnique de Paris)*
Enrico Rukzio *(University of Ulm)*

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Deepika Yadav *(IIIT-Delhi)*
Kirti Dabas *(IIIT - DELHI)*
Prerna Malik *(IIIT-Delhi)*

Anushka Bhandari *(IIIT)*
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Ningjing Tang *(Tsinghua University)*
Lei TAO *(Department of Public Policy, City University of Hong Kong)*
Bo Wen *(City University of Hong Kong)*
Zhicong Lu *(City University of Hong Kong)*

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Rama Adithya Varanasi *(Cornell University)*
Divya Siddarth *(Microsoft)*
Vivek Seshadri *(Microsoft Research India)*
Kalika Bali *(Microsoft Research Lab India)*
Aditya Vashistha *(Cornell University)*

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Thomas Reitmaier *(Swansea University)*
Electra Wallington *(University of Edinburgh)*
Dani Kalarikalayil Raju *(Studio Hasi)*
Ondrej Klejch *(University of Edinburgh)*
Jennifer Pearson *(Swansea University)*
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Jie Cai *(New Jersey Institute of Technology)*
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Clara Moge *(University College London)*
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Hyeonsu Kang *(Carnegie Mellon University)*
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Andrew Head *(Allen Institute for AI)*
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Matt Latzke *(Allen Institute for AI)*
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Doug Downey *(Allen Institute for Artificial Intelligence, Northwestern University)*
Jonathan Bragg *(Allen Institute for Artificial Intelligence)*

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Jérôme Hergueux *(French National Center for Scientific Research (CNRS, BETA lab), ETH Zurich)*
Samuel Kessler *(University of Oxford)*

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Zijian Ding *(University of Maryland)*
Jiawen Kang *(Department of Systems Engineering and Engineering Management)*
Tinky Oi Ting HO *(The Chinese University of Hong Kong)*
Ka Ho Wong *(The Chinese University of Hong Kong)*
Helene Fung *(Chinese University of Hong Kong)*
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Dhruv Jain *(University of Washington, Google)*
Khoa Nguyen *(University of Washington)*
Steven Goodman *(University of Washington)*
Rachel Grossman-Kahn *(University of Washington)*
Hung Ngo *(University of Washington)*
Aditya Kusupati *(University of Washington)*
Ruofei Du *(Google)*
Alex Olwal *(Google Inc.)*
Leah Findlater *(University of Washington)*
Jon Froehlich *(University of Washington)*

Paper306: **Analyzing Deaf and Hard-of-Hearing Users' Behavior, Usage, and Interaction with a Personal Assistant Device that Understands Sign-Language Input**

Abraham Glasser *(Rochester Institute of Technology)*
Matthew Watkins *(Rochester Institute of Technology)*
Kira Hart *(Rochester Institute of Technology)*
Sooyeon Lee *(Rochester Institute of Technology)*
Matt Huenerfauth *(Rochester Institute of Technology)*

Paper307: **Polite or Direct? Conversation Design with Politeness Theory on a Smart Display for Older Adults**

Yaxin Hu *(University of Wisconsin-Madison)*
Yuxiao Qu *(University of Wisconsin-Madison)*
Adam Maus *(University of Wisconsin - Madison)*
Bilge Mutlu *(University of Wisconsin-Madison)*

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Kevin Gonyop Kim *(EPFL)*
Richard Davis *(EPFL)*
Alessia Eletta Coppi *(Swiss Federal Institute for Vocational Education and Training)*
Alberto Cattaneo *(Swiss Federal University for Vocational Education and Training)*
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Marissa Radensky *(University of Washington)*
Jevin West *(University of Washington)*
Eric Horvitz *(Microsoft Research)*
Daniel Weld *(University of Washington, Allen Institute for Artificial Intelligence)*
Tom Hope *(Allen Institute , University of Washington)*

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Veronika Krauß *(University of Siegen, Bonn-Rhein Sieg University of Applied Science)*
Michael Nebeling *(University of Michigan)*
Florian Jasche *(University of Siegen)*
Alexander Boden *(Bonn-Rhein Sieg University of Applied Science, Fraunhofer Institute for Applied Information Technology FIT)*

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Chao Zhang *(Zhejiang University)*
Cheng Yao *(Zhejiang University)*
Jiayi Wu *(Zhejiang University)*
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Lijuan Liu *(Zhejiang University)*
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Taichang Zhou *(The Hong Kong University of Science and Technology)*
Fei Nie *(The Hong Kong University of Science and Technology)*
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Rosta Farzan *(University of Pittsburgh)*
Yingfan Zhou *(University of Pittsburgh)*

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Asra Wani *(IIIT-Delhi)*
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Kayla DesPortes *(New York University)*
Marian Tes *(New York University)*
Megan Silander *(Education Development Center)*
Camillia Matuk *(New York University)*
Anna Amato *(New York University)*
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Xiaofu Jin *(Hong Kong University of Science and Technology)*
Mingming Fan *(Hong Kong University of Science and Technology)*

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Emeline Mercier *(Ecole Normale Supérieure de Lyon)*

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Shameem Ahmed *(Western Washington University)*
Md Monsur Hossain *(Flexport Inc.)*
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Mitch Kimball *(Expeditors)*
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Joseph Gildner *(VMWare)*
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Esther Howe *(Microsoft Research, University of California, Berkeley)*
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Daniel McDuff *(Microsoft)*
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Javier Hernandez *(Microsoft Research)*
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Kaylee Kruzan *(Northwestern University)*
Jonah Meyerhoff *(Northwestern University)*
Theresa Nguyen *(Mental Health America)*
Madhu Reddy *(University of California, Irvine)*
David Mohr *(Northwestern University)*
Rachel Kornfield *(Northwestern University)*

Paper329: **Meeting Users Where They Are: User-centered Design of an Automated Text Messaging Tool to Support the Mental Health of Young Adults**
Rachel Kornfield *(Northwestern University)*
Jonah Meyerhoff *(Northwestern University)*
Hannah Studd *(Northwestern University)*
Ananya Bhattacharjee *(University of Toronto)*
Joseph Williams *(University of Toronto)*
Madhu Reddy *(University of California, Irvine)*
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Sang-Wha Sien *(University of British Columbia)*
Shalini Mohan *(University of British Columbia)*
Joanna McGrenere *(University of British Columbia)*

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Claudia Daudén Roquet *(King's College London)*
Nikki Theofanopoulou *(King's College London)*
Jaimie Freeman *(University of Oxford)*
Jessica Schleider *(Stony Brook University)*
James J. Gross *(Stanford University)*
Katie Davis *(University of Washington)*
Ellen Townsend *(University of Nottingham)*
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Sabrina Scuri *(ITI / LARSyS)*
Marta Ferreira *(ITI / LARSyS, Instituto Superior Técnico - U. Lisbon)*
Nuno Nunes *(ITI / LARSyS, Instituto Superior Técnico - U. Lisbon)*
Valentina Nisi *(ITI / LARSyS, Instituto Superior Técnico - U. Lisbon)*
Cathy Mulligan *(ITI / LARSyS, Instituto Superior Técnico - U. Lisbon)*

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Hanna Hasselqvist *(Chalmers University of Technology)*
Sara Renström *(RISE Research Institutes of Sweden)*
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Helena Strömberg *(Chalmers University of Technology)*

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Simran Chopra *(Northumbria University)*
Rachel Clarke *(Newcastle University)*
Adrian Clear *(NUI Galway)*
Sara Heitlinger *(City, University of London)*
Ozge Dilaver *(Northumbria University)*
Christina Vasiliou *(Northumbria University)*

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Chiara Rossitto *(Stockholm University)*
Rob Comber *(KTH Royal Institute of Technology)*
Jakob Tholander *(Stockholm University)*
Mattias Jacobsson *(Digital Systems / Connected Intelligence)*

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Hugo Romat *(Microsoft)*
Nicolai Marquardt *(Microsoft Research)*
Ken Hinckley *(Microsoft Research)*
Nathalie Henry Riche *(Microsoft Research)*

Paper337: **TapGazer: Text Entry with Finger Tapping and Gaze-directed Word Selection**
Zhenyi He *(New York University, New York University)*
Christof Lutteroth *(University of Bath, University of Bath)*
Ken Perlin *(New York University, New York University)*

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Han Han *(Université Paris-Saclay, CNRS, Inria)*
Junhang Yu *(Université Paris-Saclay, CNRS, Inria)*
Alexandre Ciorascu *(Université Paris-Saclay, CNRS, Inria)*
Raphael Bournet *(Université Paris-Saclay, CNRS, Inria)*
Wendy Mackay *(Université Paris-Saclay, CNRS, Inria)*
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Mingrui Zhang *(University of Washington)*
Shumin Zhai *(Google)*
Jacob Wobbrock *(University of Washington)*

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Hyejin Lee *(McGill University, McGill University)*
Ruixi Jiang *(McGill University, McGill University)*
Yongjae Yoo *(McGill University, McGill University)*
Max Henry *(McGill University, McGill University)*
Jeremy Cooperstock *(McGill University, McGill University)*

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Ayanna Seals *(New York University)*
Giuseppina Pilloni *(New York University)*
Jin Kim *(New York University)*
Raul Sanchez *(New York University)*
John-Ross Rizzo *(NYU Grossman School of Medicine)*
Leigh Charvet *(New York University)*
Oded Nov *(New York University)*
Graham Dove *(New York University)*

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Sean Cronin *(Trinity College Dublin)*
Euan Freeman *(University of Glasgow)*
Gavin Doherty *(Trinity College Dublin)*

Paper352: Designing Flexible Longitudinal Regimens: Supporting Clinician Planning for Discontinuation of Psychiatric Drugs

Eunkyung Jo *(University of California, Irvine)*
Myeonghan Ryu *(Independent researcher)*
Georgia Kenderova *(University of Washington)*
Samuel So *(University of Washington)*
Bryan Shapiro *(University of California, Irvine)*
Alexandra Papoutsaki *(Pomona College)*
Daniel Epstein *(University of California, Irvine)*

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Clara Caldeira *(Indiana University)*
Pallabi Bhowmick *(Indiana University)*
Priya Komarlingam *(Cuemed Inc)*
Katie Siek *(Indiana University)*

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Qian Zhou *(Autodesk Research)*
George Fitzmaurice *(Autodesk Research)*
Fraser Anderson *(Autodesk Research)*

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Jonas Schjerlund *(University of Copenhagen)*
Kasper Hornbæk *(University of Copenhagen)*
Joanna Bergström *(University of Copenhagen)*

Paper356: ImpactVest: Rendering Spatio-Temporal Multilevel Impact Force Feedback on Body in VR

Hsin-Ruey Tsai *(National Chengchi University)*
Yu-So Liao *(National Chengchi University)*
Chieh Tsai *(National Chengchi University)*

Paper357: Kuiper Belt: Utilizing the "Out-of-natural Angle" Region in the Eye-gaze Interaction for Virtual Reality

Myungguen Choi *(Hokkaido University)*
Daisuke Sakamoto *(Hokkaido University)*
Tetsuo Ono *(Hokkaido University)*

Paper358: Beyond Being Real: A Sensorimotor Control Perspective on Interactions in Virtual Reality

Parastoo Abtahi *(Stanford University)*
Sidney Hough *(Stanford University)*

James Landay *(Stanford University)*
Sean Follmer *(Stanford University)*

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Antti Oulasvirta *(Aalto University)*
Jussi Jokinen *(University of Jyväskylä)*
Andrew Howes *(University of Birmingham)*

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Matthias Hoppe *(LMU Munich)*
Andrea Baumann *(LMU Munich)*
Patrick Tamunjoh *(LMU Munich)*
Tonja-Katrin Machulla *(TU Dortmund)*
Paweł W. Woźniak *(Chalmers University of Technology)*
Albrecht Schmidt *(LMU Munich)*
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Paper361: **Understanding and Modeling Viewers' First Impressions with Images in Online Medical Crowdfunding Campaigns**
Qingyu Guo *(Hong Kong University of Science and Technology)*
Siyuan Zhou *(Hong Kong University of Science and Technology)*
Yifeng Wu *(The Hong Kong University of Science and Technology)*
Zhenhui Peng *(Sun Yat-Sen University, Aalto University)*
Xiaojuan Ma *(Hong Kong University of Science and Technology)*

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Yi-Chi Liao *(Aalto University)*
Kashyap Todi *(Aalto University)*
Aditya Acharya *(Aalto University)*
Antti Keurulainen *(Aalto University)*
Andrew Howes *(University of Birmingham)*
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Omid Mohaddesi *(Northeastern University)*
Jacqueline Griffin *(Northeastern University)*
Ozlem Ergun *(Northeastern University)*
David Kaeli *(Northeastern University)*
Stacy Marsella *(Northeastern University)*
Casper Harteveld *(Northeastern University)*

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Felix Epp *(Aalto University)*
Anna Kantosalo *(Aalto University, Helsinki University)*
Nehal Jain *(Aalto University)*
Andrés Lucero *(Aalto University)*
Elisa Mekler *(Aalto University)*

Paper365: **Hitting Pause: How User Perceptions of Collaborative Playlists Evolved in the United States During the COVID-19 Pandemic**
So Yeon Park *(Stanford University)*
Emily Redmond *(Stanford University)*
Jonathan Berger *(Stanford University)*

Blair Kaneshiro *(Stanford University)*

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Andrii Matviienko *(Technical University of Darmstadt)*
Florian Müller *(TU Darmstadt)*
Dominik Schön *(TU Darmstadt)*
Paul Seesemann *(TechInnical University of Darmstadt)*
Sebastian Günther *(TU Darmstadt)*
Max Mühlhäuser *(TU Darmstadt)*

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Mark Colley *(Ulm University)*
Elvedin Bajrovic *(Ulm University)*
Enrico Rukzio *(University of Ulm)*

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Jutta Willamowski *(Naver Labs Europe)*
Shreepriya Gonzalez-Jimenez *(Naver Labs Europe)*
Christophe Legras *(Naver Labs Europe)*
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Zhilong Chen *(Tsinghua University, Tsinghua University)*
Hancheng Cao *(Stanford University, Stanford University)*
Xiaochong Lan *(Tsinghua University, Tsinghua University)*
Zhicong Lu *(City University of Hong Kong, City University of Hong Kong)*
Yong Li *(Tsinghua University, Tsinghua University)*

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Jakub Mlynar *(Charles University, Charles University)*
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André Ourednik *(University of Fribourg)*
Nico Mutzner *(Royal Holloway, University of London)*
Himanshu Verma *(EPFL)*
Hamed Alavi *(University of Amsterdam, University of Fribourg)*

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Aditi Maheshwari *(Accenture Labs)*
Abhay Aggarwal *(Accenture Labs, University of California, Berkeley)*
Andreea Danielescu *(Accenture Labs)*

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Hassan Ali Khan *(North Carolina State University)*
Hassan Iqbal *(North Carolina State University)*
Muhammad Shahzad *(North Carolina State University)*
Guoliang Jin *(North Carolina State University)*

Paper373: **Outside Where? A Survey of Climates and Built Environments in Studies of HCI outdoors**
Michael Jones *(Brigham Young U.)*
Meredith Von Feldt *(Brigham Young University–Provo, UT)*
Natalie Andrus *(Brigham Young University–Provo, UT)*

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Munmun De Choudhury *(Georgia Institute of Technology, Georgia Tech)*

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Huy Nguyen *(Carnegie Mellon University)*
Jake Hofman *(Microsoft Research)*
Daniel Goldstein *(Microsoft Research)*

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Andy Cockburn *(University of Canterbury)*
Philip Quinn *(Google)*
Carl Gutwin *(University of Saskatchewan)*
Zhe Chen *(University of Canterbury)*
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Dan Bennett *(University of Bristol)*
Anne Roudaut *(University of Bristol)*
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André Rodrigues *(Universidade de Lisboa)*
Hugo Nicolau *(Universidade de Lisboa)*
André Santos *(University of Lisbon)*
Diogo Branco *(Universidade de Lisboa)*
Jay Rainey *(Newcastle University)*
David Verweij *(Newcastle University)*
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Srishti Palani *(Autodesk Research, University of California)*
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Fraser Anderson *(Autodesk Research)*

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Chuan Yan *(George Mason University)*
John Chung *(University of Michigan)*
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Sungsoo Ray Hong *(George Mason University)*

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Damien Masson *(Autodesk Research, University of Waterloo)*
Jo Vermeulen *(Autodesk Research)*

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Shwetha Rajaram *(University of Michigan)*
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Ellen Jiang *(Google)*
Edwin Toh *(Google)*
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Aditya Shekhar Nittala *(Saarland Informatics Campus, University of Calgary)*
Jürgen Steimle *(Saarland University, Saarland Informatics Campus)*

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Ryo Takahashi *(The University of Tokyo)*
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Tomoyuki Yokota *(The University of Tokyo)*
Takao Someya *(The University of Tokyo)*
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Jin Hee (Heather) Kim *(Cornell University)*
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Gabriella Schauss *(University of Colorado Boulder)*
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Takafumi Morita *(The University of Tokyo)*
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Ayato Minaminosono *(Shibaura Institution of Technology)*
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Yasuaki Kakehi *(The University of Tokyo)*

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Mingjie Liu *(The University of Texas at Austin)*
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Sian Brooke *(LSE, University of Oxford)*

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Dana McKay *(RMIT University)*
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Ning F. Ma *(University of British Columbia)*
Veronica Rivera *(University of California, Santa Cruz)*
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Jiao Sun *(University of Southern California)*
Tongshuang Wu *(University of Washington)*
Yue Jiang *(Max Planck Institute for Informatics)*
Ronil Awalegaonkar *(Latin School of Chicago)*
Xi Victoria Lin *(Facebook Inc.)*
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Sebastian Günther *(Technical University of Darmstadt)*

Julian Rasch *(LMU Munich, Technical University of Darmstadt)*
Dominik Schön *(Technical University of Darmstadt)*
Florian Müller *(LMU Munich, Technical University of Darmstadt)*
Martin Schmitz *(Technical University of Darmstadt)*
Jan Riemann *(Technical University of Darmstadt)*
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Yasmeen Abdrabou *(Bundeswehr University Munich, University of Glasgow)*
Johannes Schütte *(Bundeswehr University Munich)*
Ahmed Shams *(German University in Cairo)*
Ken Pfeuffer *(Aarhus University, Bundeswehr University Munich)*
Daniel Buschek *(University of Bayreuth)*
Mohamed Khamis *(University of Glasgow)*
Florian Alt *(Bundeswehr University Munich)*

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Jennifer Pearson *(Swansea University)*
Gavin Bailey *(Swansea University)*
Simon Robinson *(Swansea University)*
Matt Jones *(Swansea University)*
Tom Owen *(Swansea University)*
Chi Zhang *(Swansea University)*
Thomas Reitmaier *(Swansea University)*
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Anna Carter *(Swansea University)*
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Marcos Serrano *(IRIT - Elipse)*
Jolee Finch *(University of Bristol)*
Pourang Irani *(University of Manitoba)*
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Rafael Wampfler *(ETH Zurich)*
Severin Klingler *(ETH Zurich)*
Barbara Solenthaler *(ETH Zurich)*
Victor Schinazi *(Bond University, Singapore-ETH Centre)*
Markus Gross *(ETH Zurich)*
Christian Holz *(ETH Zürich)*

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Parth Kirankumar Thakkar *(University of Maryland, Baltimore County)*
Shijing He *(Cisco Inc.)*
Shiyu Xu *(University of Michigan)*
Danny Yuxing Huang *(New York University)*
Yaxing Yao *(University of Maryland, Baltimore County)*

Paper405: **Privacy Design Strategies for Home Energy Management Systems (HEMS)**

Kopo M. Ramokapane *(University of Bristol)*

Caroline Bird *(University of Bristol)*
Awais Rashid *(University of Bristol)*
Ruzanna Chitchyan *(University of Bristol)*

Paper406: **Permission vs. App Limiters: Profiling Smartphone Users to Understand Differing Strategies for Mobile Privacy Management**
Ashwaq Alsoubai *(University of Central Florida)*
Reza Ghaiumy Anaraky *(Clemson University)*
Yao Li *(University of Central Florida)*
Xinru Page *(Brigham Young University)*
Bart Knijnenburg *(Clemson University)*
Pamela Wisniewski *(University of Central Florida)*

Paper407: **Users' Expectations About and Use of Smartphone Privacy and Security Settings**
Alisa Frik *(International Computer Science Institute, University of California)*
Juliann Kim *(University of California)*
Joshua Rafael Sanchez *(University of California)*
Joanne Ma *(University of California)*

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Haotian Li *(The Hong Kong University of Science and Technology, Singapore Management University)*
Yong Wang *(Singapore Management University)*
Aoyu Wu *(Hong Kong University of Science and Technology)*
Huan Wei *(The Hong Kong University of Science and Technology)*
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Aoyu Wu *(Hong Kong University of Science and Technology)*
Wai Tong *(The Hong Kong University of Science and Technology)*
Haotian Li *(The Hong Kong University of Science and Technology)*
Dominik Moritz *(Carnegie Mellon University, Apple)*
Yong Wang *(Singapore Management University)*
Huamin Qu *(The Hong Kong University of Science and Technology)*

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Siyao Li *(University of Maryland)*
Sarah Flores *(University of Maryland)*
Michael Correll *(Tableau Software)*
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Siddhant Patil *(University of Washington)*
Emily Cho *(University of Washington)*
Evie Cheng *(University of Washington)*
Chris Horng *(University of Washington)*
Devanshi Chauhan *(University of Washington)*
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Ryan Kelly *(University of Melbourne)*
Steven Baker *(Griffith University)*
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Kong Saoane Thach *(The University of Melbourne, Tra Vinh University)*
Reeva Lederman *(The University of Melbourne)*

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Young-Ho Kim *(University of Maryland)*
Diana Chou *(University of Maryland)*
Bongshin Lee *(Microsoft Research)*
Margaret Danilovich *(CJE SeniorLife)*
Amanda Lazar *(University of Maryland)*
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Matthew Horrocks *(New Mexico State University)*
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Michelle Cormier *(New Mexico State University)*
Nicolas LaLone *(University of Nebraska at Omaha)*
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Paper418: Personalization Trade-offs in Designing Dialogue-based Interactive Information System for Support-Seeking of Sexual Violence Survivors
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Youjin Hwang *(Seoul National University)*
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Susanne Schmidt *(Universität Hamburg)*
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David Shamma *(Toyota Research Institute)*

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Tiffany Do *(University of Central Florida)*
Ryan P. McMahan *(University of Central Florida)*
Pamela Wisniewski *(University of Central Florida)*

Paper425: Understanding and Designing Avatar Biosignal Visualizations for Social Virtual Reality Entertainment
Sueyoon Lee *(Centrum Wiskunde & Informatica (CWI), Delft University of Technology)*
Abdallah El Ali *(Centrum Wiskunde & Informatica (CWI))*
Maarten Wijntjes *(Delft University of Technology)*
Pablo Cesar *(Centrum Wiskunde & Informatica (CWI), Delft University of Technology (TU Delft))*

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Shruti Mahajan *(Worcester Polytechnic Institute)*
Richard Vallett *(Drexel University)*
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Paper427: **Eyes-Off Your fingers: Gradual Surface Haptic Feedback Improves Eyes-Free Touchscreen Interaction.**
Corentin Bernard *(Aix Marseille Univ, CNRS, PRISM, Stellantis)*
Jocelyn Monnoyer *(CNRS / Aix-Marseille University, Stellantis)*
Sølvi Ystad *(Aix Marseille Univ, CNRS, PRISM)*
Michael Wiertlewski *(TU Delft)*

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Feng Feng *(University of Bristol)*
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Siyou Pei *(University of California, Los Angeles)*
Alexander Chen *(University of California, Los Angeles)*
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Yang Zhang *(University of California, Los Angeles)*

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Hsin-Ruey Tsai *(National Chengchi University)*
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Yi-Ting Chiang *(National Chengchi University)*
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Thomas Muender *(University of Bremen)*
Michael Bonfert *(University of Bremen)*
Anke Reinschluessel *(University of Bremen)*
Rainer Malaka *(University of Bremen)*
Tanja Döring *(University of Bremen)*

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Jun Rekimoto *(The University of Tokyo, Sony CSL Kyoto)*

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Myung Jin Kim *(KAIST)*
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Mike Sinclair *(Microsoft)*
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Chris Zimmerer *(University of Würzburg, Department of Computer Science, HCI Group, University of Würzburg, Department of Computer Science, HCI Group)*
Philipp Krop *(Würzburg University, Würzburg University)*
Martin Fischbach *(University of Würzburg, University of Würzburg)*
Marc Erich Latoschik *(Department of Computer Science, HCI Group, Department of Computer Science, HCI Group)*

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Chaeyong Park *(Pohang University of Science and Technology)*
Jeongwoo Kim *(Pohang University of Science and Technology)*
Dong-Geun Kim *(Pohang University of Science and Technology)*
Seungjae Oh *(Pohang University of Science and Technology (POSTECH))*
Seungmoon Choi *(Pohang University of Science and Technology (POSTECH))*

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Shuo Zhou *(Northeastern University)*
Timothy Bickmore *(Northeastern University)*

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Georgianna Lin *(Georgia Institute of Technology, Georgia Institute of Technology)*
Elizabeth Mynatt *(Georgia Institute of Technology, Georgia Institute of Technology)*
Neha Kumar *(Georgia Tech, Georgia Tech)*

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Kymeng Tang *(KU Leuven)*
Kathrin Gerling *(KU Leuven)*
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Junhan Kim *(University of Michigan)*
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Elliot Mitchell *(Columbia University)*
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Aleesha Hamid *(Lahore University of Management Sciences)*
Rabiah Arshad *(Lahore University of Management Sciences)*
Suleman Shahid *(Lahore University of Management Sciences)*

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Xuhai Xu *(University of Washington)*
Tianyuan Zou *(Tsinghua University)*
Han Xiao *(Beijing University of Posts and Telecommunications)*
Yanzhang Li *(Tsinghua University)*
Ruolin Wang *(UCLA)*
Tianyi Yuan *(Department of Industrial Engineering)*
Yuntao Wang *(Tsinghua University)*
Yuanchun Shi *(Tsinghua University)*
Jennifer Mankoff *(University of Washington)*
Anind Dey *(University of Washington)*

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Hayley Evans *(Georgia Institute of Technology)*

Catherine Deeter *(Georgia Institute of Technology)*
Jiawei Zhou *(Georgia Institute of Technology)*
Kimberly Do *(Georgia Institute of Technology)*
Andrew Sherrill *(Emory University School of Medicine)*
Rosa Arriaga *(Georgia Institute of Technology)*

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Wally Smith *(The University of Melbourne)*
Greg Wadley *(The University of Melbourne)*
Sarah Webber *(University of Melbourne)*
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Peter Koval *(The University of Melbourne)*
James J. Gross *(Stanford University)*

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Elina Tochilnikova *(Northeastern University)*
Amrit Patnaik *(Northeastern University)*
Ghada Alsebayel *(Northeastern University)*
Uttkarsh Narayan *(Northeastern University)*
Andrew Coeytaux *(Northeastern University)*
Valeria Ramdin *(Northeastern University)*
Miso Kim *(Northeastern University)*
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Wael Albayaydh *(Universoty of Oxford)*
Ivan Flechais *(University of Oxford)*

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Aafaq Sabir *(North Carolina State University)*
Evan Lafontaine *(North Carolina State University)*
Anupam Das *(North Carolina State University)*

Paper448: **Users Can Deduce Sensitive Locations Protected by Privacy Zones on Fitness Tracking Apps**
Jaron Mink *(University of Illinois at Urbana-Champaign)*
Amanda Rose Yuile *(University of Illinois at Urbana-Champaign)*
Uma Pal *(University of Massachusetts Amherst)*
Adam Aviv *(The George Washington University)*
Adam Bates *(University of Illinois at Urbana-Champaign)*

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Haojian Jin *(CMU)*
Boyuan Guo *(CMU)*
Rituparna Roychoudhury *(Carnegie Mellon University)*
Yaxing Yao *(University of Maryland Baltimore County)*
Swarun Kumar *(Carnegie Mellon University)*
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Christina Harrington *(Carnegie Mellon University)*

Shamika Klassen *(The University of Colorado at Boulder)*
Yolanda Rankin *(FLORIDA STATE UNIVERSITY)*

Paper451: **Seamless Visions, Seamful Realities: Anticipating Rural Infrastructural Fragility in Early Design of Digital Agriculture**
Gloire Rubambiza *(Cornell University)*
Phoebe Sengers *(Cornell University)*
Hakim Weatherspoon *(Cornell University)*

Paper452: **Radical Futures: Supporting Community-Led Design Engagements through an Afrofuturist Speculative Design Toolkit**
Kirsten Bray *(Georgia Tech)*
Christina Harrington *(Carnegie Mellon University)*
Andrea Parker *(Georgia Tech)*
N'Deye Diakhate *(Black Womxn Flourish)*
Jennifer Roberts *(Versed Education Group)*

Paper453: **Interactive Fiction Provotypes for Coping with Interpersonal Racism**
Alexandra To *(Northeastern University)*
Hillary Carey *(Carnegie Mellon University)*
Riya Shrivastava *(Carnegie Mellon University)*
Jessica Hammer *(Carnegie Mellon University)*
Geoff Kaufman *(Carnegie Mellon University)*

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Paper454: **ReClaym our Compost: Biodegradable Clay for Intimate Making**
Fiona Bell *(University of Colorado)*
Netta Ofer *(University of Colorado, Boulder)*
Mirela Alistar *(University of Colorado Boulder)*

Paper455: **Sensitive Pictures: Emotional Interpretation in the Museum**
Steve Benford *(University of Nottingham)*
Anders Løvlie *(IT University of Copenhagen)*
Karin Ryding *(IT University)*
Paulina Rajkowska *(Uppsala University)*
Edgar Bodiaj *(University of Nottingham)*
Dimitrios Darzentas *(University of Nottingham)*
Harriet Cameron *(University of Nottingham)*
Jocelyn Spence *(University of Nottingham)*
Joy Egede *(University of Nottingham)*
Bogdan Spanjevic *(NextGame)*

Paper456: **Understanding Screen-based Dining Practices through the Lens of Mindful Eating**
Rohit Ashok Khot *(RMIT University)*
Deepti Aggarwal *(RMIT University)*
Nandini Pasumarthy *(RMIT University)*

Paper457: **A Study of Solar Cooking: Exploring Climate-Resilient Food Preparation and Opportunities for HCI**
Stacey Kuznetsov *(Arizona State University)*
Alejandra Rodriguez Vega *(Arizona State University)*
Elenore Long *(Arizona State University)*

Paper458: **Yo–Yo Machines: Self-Build Devices that Support Emotional Connections During the Pandemic**
William Gaver *(Northumbria University)*
Andy Boucher *(Northumbria University)*
Dean Brown *(Northumbria University)*
David Chatting *(Goldsmiths, University of London)*
Naho Matsuda *(Northumbria University)*
Liliana Ovalle *(Northumbria University)*

Andy Sheen *(Northumbria University)*
Michail Vanis *(Northumbria University)*

Papers: Captioning Images, Videos and Applications

Paper459: **Watch It, Don't Imagine It: Creating a Better Caption-Occlusion Metric by Collecting More Ecologically Valid Judgments from DHH Viewers**
Akhter Al Amin *(Rochester Institute of Technology)*
Saad Hassan *(Rochester Institute of Technology)*
Sooyeon Lee *(Rochester Institute of Technology)*
Matt Huenerfauth *(Rochester Institute of Technology)*

Paper460: **Remotely Co-Designing Features for Communication Applications using Automatic Captioning with Deaf and Hearing Pairs**
Matthew Seita *(Rochester Institute of Technology)*
Sooyeon Lee *(Rochester Institute of Technology)*
Sarah Andrew *(Rochester Institute of Technology)*
Kristen Shinohara *(Rochester Institute of Technology)*
Matt Huenerfauth *(Rochester Institute of Technology)*

Paper461: **A Large-Scale Longitudinal Analysis of Missing Label Accessibility Failures in Android Apps**
Raymond Fok *(University of Washington)*
Mingyuan Zhong *(University of Washington)*
Anne Ross *(Bucknell University)*
James Fogarty *(University of Washington)*
Jacob Wobbrock *(University of Washington)*

Paper462: **ImageExplorer: Multi-Layered Touch Exploration to Encourage Skepticism Towards Imperfect AI-Generated Image Captions**
Jaewook Lee *(University of Illinois at Urbana-Champaign)*
Jaylin Herskovitz *(University of Michigan)*
Yi-Hao Peng *(Carnegie Mellon University)*
Anhong Guo *(University of Michigan)*

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Paper463: **Above and Beyond: A Scoping Review of Domains and Applications for Human-Drone Interaction**
Viviane Herdel *(Ben-Gurion University of the Negev)*
Lee Yamin *(Ben-Gurion University of the Negev)*
Jessica Cauchard *(Ben Gurion University of the Negev)*

Paper464: **Understanding Social Influence in Collective Product Ratings Using Behavioral and Cognitive Metrics**
Fu-Yin Cherng *(National Chung Cheng University)*
Jingchao Fang *(UC Davis)*
Yinhao Jiang *(University of California, Davis)*
Xin Chen *(University of California, Davis)*
Taejun Choi *(Looxid Labs US Inc.)*
Hao-Chuan Wang *(UC Davis)*

Paper465: **Mobilizing Crowdwork: A Systematic Assessment of the Mobile Usability of HITs**
Senjuti Dutta *(University of Tennessee, Knoxville)*
Rhema Linder *(University of Tennessee, Knoxville)*
Doug Lowe *(University of Tennessee, Knoxville)*
Richard Rosenbalm *(University of Tennessee, Knoxville)*
Anastasia Kuzminykh *(University of Toronto)*
Alex Williams *(University of Tennessee, Knoxville)*

Papers: Emotions & Morality in Games

Papers: Nudging, Recommending, Notifying

Yihe Liu *(Georgia Institute of Technology)*
Anushk Mittal *(Georgia Tech)*
Diyi Yang *(Georgia Institute of Technology)*
Amy Bruckman *(Georgia Institute of Technology)*

Paper475: Nudging Behavior Change: Using In-Group and Out-Group Social Comparisons to Encourage Healthier Choices
Blake DiCosola *(University of Oxford, University of California (Irvine))*
Gina Neff *(University of Cambridge, University of Oxford)*

Papers: Accessibility and Data Visualization

Paper476: Supporting Accessible Data Visualization Through Audio Data Narratives
Alexa Siu *(Stanford University, Adobe Research)*
Gene Kim *(Stanford University)*
Sile O'Modhrain *(University of Michigan)*
Sean Follmer *(Stanford University)*

Paper477: Slide-Tone and Tilt-Tone: 1-DOF Haptic Techniques for Conveying Shape Characteristics of Graphs to Blind Users
Danyang Fan *(Stanford University)*
Alexa Siu *(Stanford University)*
Wing-Sum Law *(Stanford University)*
Raymond Zhen *(Stanford University)*
Sile O'Modhrain *(University of Michigan)*
Sean Follmer *(Stanford University)*

Paper478: VoxLens: Making Online Data Visualizations Accessible with an Interactive JavaScript Plug-In
Ather Sharif *(University of Washington)*
Olivia Wang *(University of Washington)*
Alida Muongchan *(University of Washington)*
Katharina Reinecke *(University of Washington)*
Jacob Wobbrock *(University of Washington)*

Paper479: Improving Colour Patterns to Assist People with Colour Vision Deficiency
Connor Geddes *(University of Guelph)*
David Flatla *(University of Guelph)*
Garreth Tigwell *(Rochester Institute of Technology)*
Roshan Peiris *(Rochester Institute of Technology)*

Paper480: Infosonics: Accessible Infographics for People who are Blind using Sonification and Voice
Leona Holloway *(Monash University)*
Cagatay Goncu *(Monash University)*
Alon Ilsar *(Monash University)*
Matthew Butler *(Monash University)*
Kim Marriott *(Monash University)*

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Paper481: Solving Separation-of-Concerns Problems in Collaborative Design of Human-AI Systems through Leaky Abstractions
Hariharan Subramonyam *(Stanford University)*
Jane Im *(University of Michigan)*
Colleen Seifert *(U Michigan)*
Eytan Adar *(University of Michigan)*

Paper482: CO/DA: Live-Coding Movement-Sound Interactions for Dance Improvisation
Jules Françoise *(Université Paris-Saclay, CNRS)*
Sarah Fdili Alaoui *(Université Paris Saclay)*

Yves Candau *(Simon Fraser University)*

Paper483: **How Experienced Designers of Enterprise Applications Engage AI as a Design Material**
Nur Yildirim *(Carnegie Mellon University)*
Alex Kass *(Accenture)*
Teresa Tung *(Accenture Labs)*
Connor Upton *(Fjord at the Dock)*
Donnacha Costello *(Fjord at the Dock)*
Robert Giusti *(Fjord)*
Sinem Lacin *(Fjord at the Dock)*
Sara Lovic *(Fjord at the Dock)*
James O'Neill *(Fjord)*
Rudi O'Reilly Meehan *(Fjord at the Dock)*
Eoin Ó Loideáin *(Fjord)*
Azzurra Pini *(Accenture The Dock)*
Medb Corcoran *(Accenture The Dock)*
Jeremiah Hayes *(Accenture The Dock)*
Diarmuid Cahalane *(Accenture Labs)*
Gaurav Shivhare *(Fjord at the Dock)*
Luigi Castoro *(Accenture)*
Giovanni Caruso *(Accenture)*
Changhoon Oh *(Boston College)*
James McCann *(Carnegie Mellon University)*
Jodi Forlizzi *(Carnegie Mellon University)*
John Zimmerman *(Carnegie Mellon University)*

Paper484: **Six Facets of Facilitation: Participatory Design Facilitators' Perspectives on Their Role and Its Realization**
Yngve Dahl *(NTNU)*
Kshitij Sharma *(NTNU)*

Paper485: **Critical-Playful Speculations with Cameras in the Home**
Neilly Tan *(University of Washington)*
Brian Kinnee *(University of Washington)*
Dana Langseth *(University of Washington)*
Sean Munson *(University of Washington)*
Audrey Desjardins *(University of Washington)*

Papers: Trust, Recommendation, and Explainable AI (XAI)

Paper486: **User Trust in Recommendation Systems: A comparison of Content-Based, Collaborative and Demographic Filtering**
Mengqi Liao *(The Pennsylvania State University)*
S. Shyam Sundar *(The Pennsylvania State University)*
Joseph Walther *(University of California, Santa Barbara)*

Paper487: **Improving understandability of feature contributions in model-agnostic explainable AI tools**
Sophia Hadash *(Jheronimus Academy of Data Science, Eindhoven University of Technology)*
Martijn Willemsen *(Jheronimus Academy of Data Science, Eindhoven University of Technology)*
Chris Snijders *(Technical university of Eindhoven)*
Wijnand IJsselsteijn *(Technical university of Eindhoven)*

Paper488: **How to Guide Task-oriented Chatbot Users, and When: A Mixed-methods Study of Combinations of Chatbot Guidance Types and Timings**
Su-Fang Yeh *(National Yang Ming Chiao Tung University)*
Meng-Hsin Wu *(University of Toronto)*
Tze-Yu Chen *(National Yang Ming Chiao Tung University)*
Yen-Chun Lin *(National Yang Ming Chiao Tung University)*
XiJing Chang *(National Yang Ming Chiao Tung University)*
You-Hsuan Chiang *(National Yang Ming Chiao Tung University)*

Yung-Ju Chang *(National Yang Ming Chiao Tung University)*

Paper489: **Impacts of Personal Characteristics on User Trust in Conversational Recommender Systems**
Wanling Cai *(Hong Kong Baptist University)*
Yucheng Jin *(Hong Kong Baptist University)*
Li Chen *(Hong Kong Baptist University)*

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Paper490: **Tisane: Authoring Statistical Models via Formal Reasoning from Conceptual and Data Relationships**
Eunice Jun *(University of Washington)*
Audrey Seo *(University of Washington)*
Jeffrey Heer *(University of Washington)*
Rene Just *(University of Washington)*

Paper491: **Math Augmentation: How Authors Enhance the Readability of Formulas using Novel Visual Design Practices**
Andrew Head *(Allen Institute for AI)*
Amber Xie *(UC Berkeley)*
Marti Hearst *(UC Berkeley)*

Paper492: **Varv: Reprogrammable Interactive Software as a Declarative Data Structure**
Marcel Borowski *(Aarhus University)*
Luke Murray *(MIT)*
Rolf Bagge *(Aarhus University)*
Janus Kristensen *(Aarhus University)*
Arvind Satyanarayan *(MIT)*
Clemens Klokmose *(Aarhus University)*

Paper493: **VibEmoji: Exploring User-authoring Multi-modal Emoticons in Social Communication**
Pengcheng An *(Southern University of Science and Technology, University of Waterloo)*
Ziqi Zhou *(University of Waterloo)*
Qing Liu *(University of Waterloo)*
Yifei Yin *(University of Toronto Scarborough)*
Linghao Du *(Huawei Canada)*
Da-Yuan Huang *(Huawei Canada)*
Jian Zhao *(University of Waterloo)*

Papers: Intelligent Interaction Techniques

Paper494: **Select or Suggest? Reinforcement Learning-based Method for High-Accuracy Target Selection on Touchscreens**
Zhi Li *(Stony Brook University)*
Maozheng Zhao *(Stony Brook University)*
Dibyendu Das *(Stony Brook University)*
HANG ZHAO *(Stony Brook University)*
Yan Ma *(Stony Brook University)*
Wanyu Liu *(IRCAM Centre Pompidou)*
Michel Beaudouin-Lafon *(Université Paris-Saclay, Université Paris-Saclay, CNRS, Inria)*
Fusheng Wang *(Stony Brook University)*
IV Ramakrishnan *(Stony Brook University)*
Xiaojun Bi *(Stony Brook University)*

Paper495: **A Performance Evaluation of Nomon: A Flexible Interface for Noisy Single-Switch Users**
Nicholas Bonaker *(Massachusetts Institute of Technology)*
Emli-Mari Nel *(University of the Witwatersrand)*
Keith Vertanen *(Michigan Technological University)*
Tamara Broderick *(Massachusetts Institute of Technology)*

Paper496: **Enabling Hand Gesture Customization on Wrist-Worn Devices**

Xuhai Xu *(Apple Inc.)*
Jun Gong *(Apple Inc.)*
Carolina Brum *(Apple Inc.)*
Lilian Liang *(Apple Inc.)*
Bongsoo Suh *(Apple Inc.)*
Shivam Kumar Gupta *(Apple Inc.)*
Yash Agarwal *(Apple Inc.)*
Laurence Lindsey *(Apple Inc.)*
Runchang Kang *(Apple Inc.)*
Behrooz Shahsavari *(Apple Inc.)*
Tu Nguyen *(Apple Inc.)*
Heriberto Nieto *(Apple Inc.)*
Scott Hudson *(Apple Inc., Carnegie Mellon University)*
Charlie Maalouf *(Apple Inc.)*
Jax Seyed Mousavi *(Apple Inc.)*
Gierad Laput *(Apple Inc.)*

Paper497: **TapType: Ten-finger text entry on everyday surfaces via Bayesian inference**

Paul Streli *(ETH Zürich)*
Jiaxi Jiang *(ETH Zürich)*
Andreas Fender *(ETH Zürich)*
Manuel Meier *(ETH Zürich)*
Hugo Romat *(ETH Zürich)*
Christian Holz *(ETH Zürich)*

Paper498: **Gesture Elicitation as a Computational Optimization Problem**

Theophanis Tsandilas *(Université Paris-Saclay, CNRS, Inria, LISN)*
Pierre Dragicevic *(Université de Bordeaux, CNRS, Inria, LaBRI)*

Papers: Video Authoring

Paper499: **Enhanced Videogame Livestreaming by Reconstructing an Interactive 3D Game View for Spectators**

Jeremy Hartmann *(University of Waterloo, mtion interactive inc.)*
Daniel Vogel *(University of Waterloo)*

Paper500: **CatchLive: Real-time Summarization of Live Streams with Stream Content and Interaction Data**

Saelyne Yang *(School of Computing, KAIST)*
Jisu Yim *(KAIST)*
Juho Kim *(KAIST)*
Hijung Valentina Shin *(Adobe Research)*

Paper501: **FitVid: Responsive and Flexible Video Content Adaptation**

Jeongyeon Kim *(KAIST)*
Yubin Choi *(KAIST)*
Minsuk Kahng *(Oregon State University)*
Juho Kim *(KAIST)*

Paper502: **Katika: An End-to-End System for Authoring Amateur Explainer Motion Graphics Videos**

Amir Jahanlou *(Simon Fraser University)*
Parmit Chilana *(Simon Fraser University)*

Papers: Tangibles and Ambient Computing

Paper503: **SABLIER : a Tangible Interactor to Navigate through Space and Time**

Pierre Mahieux *(Lab-STICC, CNRS, ENIB)*
Romain Biannic *(Lab-STICC, CNRS, ENIB)*

Sébastien Kubicki *(Lab-STICC UMR 6285)*
Ronan Querrec *(ENIB)*

Paper504: **Hidden Interfaces for Ambient Computing: Enabling Interaction in Everyday Materials through High-brightness Visuals on Low-cost Matrix Displays**
Alex Olwal *(Google Inc.)*
Artem Dementyev *(Google Research)*

Paper505: **Tangible Globes for Data Visualisation in Augmented Reality**
Kadek Ananta Satriadi *(Monash University, University of South Australia)*
Jim Smiley *(Faculty of Information Technology)*
Barrett Ens *(Monash University)*
Maxime Cordeil *(Monash University)*
Tobias Czauderna *(Monash University)*
Benjamin Lee *(Monash University)*
Ying Yang *(Monash University)*
Tim Dwyer *(Monash University)*
Bernhard Jenny *(Monash University)*

Paper506: **(Dis)Appearables: A Concept and Method for Actuated Tangible UIs to Appear and Disappear based on Stages**
Ken Nakagaki *(MIT Media Lab)*
Jordan L Tappa *(Massachusetts Institute of Technology)*
Yi Zheng *(University of Southern California)*
Jack Forman *(Massachusetts Institute of Technology)*
Joanne Leong *(MIT)*
Sven Koenig *(University of Southern California)*
Hiroshi Ishii *(MIT)*

Paper507: **Tangible Collaboration: A Human-Centered Approach for Sharing Control With an Actuated-Interface**
Oren Zuckerman *(The Interdisciplinary Center (IDC) Herzliya)*
Viva Press *(The Interdisciplinary Center (IDC) Herzliya)*
Ehud Barda *(The Interdisciplinary Center (IDC) Herzliya)*
Benny Megidish *(The Interdisciplinary Center (IDC) Herzliya)*
Hadas Erel *(The Interdisciplinary Center (IDC) Herzliya)*

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Paper508: **Making Space for Cultural Infrastructure: The Breakdown and Maintenance Work of Independent Movie Theaters During Crisis**
Sam Ankenbauer *(University of Michigan)*
Alex Jiahong Lu *(University of Michigan)*

Paper509: **"As Uploaders, We Have the Responsibility": Individualized Professionalization of Bilibili Uploaders**
Xianghua(Sharon) Ding *(University of Glasgow, Fudan University)*
Yubo Kou *(Pennsylvania State University)*
Yiwen Xu *(Fudan University)*
Peng Zhang *(Fudan University)*

Paper510: **A Little Too Personal: Effects of Standardization versus Personalization on Job Acquisition, Work Completion, and Revenue for Online Freelancers**
Jane Hsieh *(Carnegie Mellon University)*
Yili Hong *(University of Houston)*
Gordon Burtch *(Boston University)*
Haiyi Zhu *(Carnegie Mellon University)*

Paper511: **FluidMeet: Enabling Frictionless Transitions Between In-Group, Between-Group, and Private Conversations During Virtual Breakout Meetings**
Erzhen Hu *(University of Virginia)*

Md Aashikur Rahman Azim *(University of Virginia)*
Seongkook Heo *(University of Virginia)*

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Paper512: **Pet-Robot or Appliance? Care Home Residents with Dementia Respond to a Zoomorphic Floor Washing Robot**
Emanuela Marchetti *(SDU Syddansk Universitet)*
Sophie Grimme *(Bauhaus-Universität Weimar)*
Eva Hornecker *(Bauhaus-Universität Weimar)*
Avgi Kollakidou *(University of Southern Denmark)*
Philipp Graf *(Chemnitz Technical University)*

Paper513: **Barriers to Online Dementia Information and Mitigation**
Emma Dixon *(University of Maryland)*
Jesse Anderson *(University of Maryland)*
Diana Blackwelder *(University of Maryland)*
Mary Radnofsky *(University of Maryland)*
Amanda Lazar *(University of Maryland)*

Paper514: **Designing for Everyday Sounds at Home with People with Dementia and their Partners**
Maarten Houben *(Eindhoven University of Technology, Tilburg University)*
Rens Brankaert *(University of Technology Eindhoven, Fontys University of Applied Sciences)*
Gail Kenning *(University of New South Wales)*
Inge Bongers *(Tilburg University)*
Berry Eggen *(Eindhoven University of Technology)*

Paper515: **LivingMoments: Bespoke Social Communication for People living with Dementia and their Relatives**
Myrte Thoolen *(University of Technology Eindhoven)*
Francesca Toso *(Eindhoven University of Technology)*
Sebastiaan Peek *(Tranzo, School of Social and Behavioral Science, Tilburg University)*
Yuan Lu *(University of Technology Eindhoven)*
Rens Brankaert *(University of Technology Eindhoven, Fontys University of Applied Sciences)*

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Paper516: **SkyPort: Investigating 3D Teleportation Methods in Virtual Environments**
Andrii Matviienko *(Technical University of Darmstadt)*
Florian Müller *(TU Darmstadt)*
Martin Schmitz *(Technical University of Darmstadt)*
Marco Fendrich *(TU Darmstadt)*
Max Mühlhäuser *(TU Darmstadt)*

Paper517: **Understanding User Experiences Across VR Walking-in-place Locomotion Methods**
Chek Tan *(Singapore Institute of Technology)*
Leon Foo *(Singapore Institute of Technology)*
Adriel Yeo *(Singapore Institute of Technology)*
Jeannie Lee *(Singapore Institute of Technology)*
Edmund Wan *(Singapore Institute of Technology)*
Xiao-Feng Kenan Kok *(Singapore Institute of Technology)*
Megani Rajendran *(Singapore Institute of Technology)*

Paper518: **HeadWind: Enhancing Teleportation Experience in VR by Simulating Air Drag during Rapid Motion**
Chun-Miao Tseng *(National Taiwan University)*
Po-Yu Chen *(National Taiwan University)*
Shih Chin Lin *(National Taiwan University)*
Yu-Wei Wang *(National Taiwan University)*
Yu-Hsin Lin *(National Taiwan University)*

Mu-An Kuo *(National Taiwan University)*
Neng-Hao Yu *(National Taiwan University of Science and Technology)*
Mike Chen *(National Taiwan University)*

Paper519: **Kills, Deaths, and (Computational) Assists: Identifying Opportunities forComputational Support in Esport Learning**
Erica Kleinman *(UC Santa Cruz)*
Murtuza Shergadwala *(UC Santa Cruz)*
Magy Seif El-Nasr *(University of California at Santa Cruz)*

Paper520: **How AI-Based Training Affected Performance of Professional Go Players**
Jimoon Kang *(Yonsei University)*
June-seop Yoon *(Department of Computer Science, Yonsei University)*
Byungjoo Lee *(Yonsei University)*

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Paper521: **Trust, Reciprocity, and the Role of Timebanks as Intermediaries: Design Implications for Addressing Healthcare Transportation Barriers**
Tawanna Dillahunt *(University of Michigan)*
Juan Maestre *(Indiana University Bloomington)*
Vaishnav Kameswaran *(University of Michigan)*
Erica Poon *(University of Michigan)*
John Osorio Torres *(Indiana University)*
Mia Gallardo *(Indiana University)*
Samantha Rasmussen *(Indiana University)*
Patrick Shih *(Indiana University Bloomington)*
Alice Bagley *(Unity in Our Community TimeBank)*
Samuel Young *(Covenant Community Care, Inc.)*
Tiffany Veinot *(University of Michigan)*

Paper522: **Transitioning Toward Independence: Enhancing Collaborative Self-Management of Children with Type 1 Diabetes**
Yoon Jeong Cha *(University of Michigan)*
Arpita Saxena *(School of Information)*
Alice Wou *(School of Information)*
Joyce Lee *(University of Michigan)*
Mark Newman *(U. of Michigan)*
Sun Young Park *(University of Michigan)*

Paper523: **When Worlds Collide: Boundary Management of Adolescent and Young Adult Childhood Cancer Survivors and Caregivers**
Elizabeth Ankrah *(University of California, Irvine)*
Arpita Bhattacharya *(University of California, Irvine)*
Lissamarie Donjuan *(Children's Hospital of Orange County)*
Franceli Cibrian *(Chapman University)*
Lilibeth Torno *(Children's Hospital of Orange County)*
Anamara Ritt Olson *(University of California Irvine)*
Joel Milam *(University of California Irvine)*
Gillian Hayes *(University of California, Irvine)*

Paper524: **Investigating Daily Practices of Self-care to Inform the Design of Supportive Health Technologies for Living and Ageing Well with HIV**
Caroline Claisse *(Newcastle University)*
Bakita Kasadha *(Terrence Higgins Trust)*
Simone Stumpf *(University of Glasgow)*
Abigail Durrant *(Newcastle University)*

Paper525: **The Challenge of (Non-)Disclosure: Exploring the Lived Experience of Ethiopian Adolescents with HIV and Their Attitudes Toward Technology**

Alemitu Bezabih *(KU Leuven)*
Kathrin Gerling *(KU Leuven)*
Workeabeba Abebe *(Addis Ababa University)*
Vero Vanden Abeele *(KU Leuven)*

Papers: Instant Messaging & Texting

Paper526: **Why Did You/I Read but Not Reply? IM Users' Unresponded Read-Receipt Practices and Explanations**
Yu-Ling Chou *(National Tsing Hua University, National Yang Ming Chiao Tung University)*
Yi-Hsiu Lin *(National Yang Ming Chiao Tung University, National Yang Ming Chiao Tung University)*
Tzu-Yi Lin *(Department of Computer Science)*
Hsin Ying You *(National Yang Ming Chiao Tung University, National Yang Ming Chiao Tung University)*
Yung-Ju Chang *(National Yang Ming Chiao Tung University)*

Paper527: **EmoBalloon - Conveying Emotional Arousal in Text Chats with Speech Balloons**
Toshiki Aoki *(The University of Tokyo)*
Rintaro Chujo *(The University of Tokyo)*
Katsufumi Matsui *(The University of Tokyo)*
Saemi Choi *(Samsung Research)*
Ari Hautasaari *(The University of Tokyo)*

Paper528: **"I need to be professional until my new team uses emoji, GIFs, or memes first": New Collaborators' Perspectives on Using Non-Textual Communication in Virtual Workspaces**
Esha Shandilya *(Rochester Institute of Technology)*
Mingming Fan *(The Hong Kong University of Science and Technology (Guangzhou), The Hong Kong University of Science and Technology)*
Garreth Tigwell *(Rochester Institute of Technology)*

Paper529: **"Because I'm Restricted, 2–4 PM Unable to See Messages": Exploring Users' Perceptions and Likely Practices around Exposing Attention-management Information on IM Statuses**
Yu-Ling Chou *(National Tsing Hua University, National Yang Ming Chiao Tung University)*
Yu-Ling Chien *(National Chiao Tung University, National Yang Ming Chiao Tung University)*
Yu-Hsin Lin *(National Taiwan University, National Yang Ming Chiao Tung University)*
Kung-Pai Lin *(National Yang Ming Chiao Tung University, National Yang Ming Chiao Tung University)*
Faye Shih *(Bryn Mawr College, National Yang Ming Chiao Tung University)*
Yung-Ju Chang *(National Yang Ming Chiao Tung University, National Yang Ming Chiao Tung University)*

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Paper530: **How HCI Adopts Service Design: Unpacking Current Perceptions and Scopes of Service Design in HCI and Identifying Future Opportunities**
Jung-Joo Lee *(National University of Singapore)*
Christine Ee Ling Yap *(National University of Singapore)*
Virpi Roto *(Aalto University)*

Paper531: **A study of UX Practitioners Roles in Designing Real-World, Enterprise ML Systems**
Sabah Zdanowska *(City, University of London)*
Alex Taylor *(City)*

Paper532: **The Electronicists: Building Techno-aesthetic Practice for Supporting Nonlinear Practitioners in HCI**
Laewoo Kang *(Cornell University)*
Steven Jackson *(Cornell University)*
Trevor Pinch *(Cornell University)*

Paper533: **Designing for Inaccessible Emergency Medical Service Contexts: Development and Evaluation of the Contextual Secondary Video Toolkit**

Paul Schlosser *(The University of Queensland)*
Ben Matthews *(University of Queensland)*

Paper534: **Co-Imagining the Future of Playable Cities: A Bottom-Up, Multi-Stakeholder Speculative Inquiry into the Playful Potential of Urban Technology**
Ferran Altarriba Bertran *(UC Santa Cruz)*
Laura Bisbe Armengol *(Universitat de Girona)*
Cameron Cooke *(UC Santa Cruz)*
Ivy Chen *(UC Santa Cruz)*
Victor Dong *(UC Santa Cruz)*
Binaisha Dastoor *(UC Santa Cruz)*
Kelsea Tadano *(UC Santa Cruz)*
Fyez Dean *(UC Santa Cruz)*
Jessalyn Wang *(UC Santa Cruz)*
Adrià Altarriba Bertran *(Jocs al Segon)*
Jared Duval *(University of California Santa Cruz)*
Katherine Isbister *(University of California Santa Cruz)*

Papers: Interacting with Smart Technology

Paper535: **When Confidence Meets Accuracy: Exploring the Effects of Multiple Performance Indicators on Trust in Machine Learning Models**
Amy Rechkemmer *(Purdue University)*
Ming Yin *(Purdue University)*

Paper536: **Informing Age-Appropriate AI: Examining Principles and Practices of AI for Children**
Ge Wang *(University of Oxford)*
Jun Zhao *(University of Oxford)*
Max Van Kleek *(University of Oxford)*
Nigel Shadbolt *(University of Oxford)*

Paper537: **GANSpiration: Balancing Targeted and Serendipitous Inspiration in User Interface Design with Style-Based Generative Adversarial Network**
Mohammad Amin Mozaffari *(Polytechnique Montreal)*
Xinyuan Zhang *(Polytechnique Montreal)*
Jinghui Cheng *(Polytechnique Montreal)*
Jin L.C. Guo *(McGill University)*

Paper538: **Towards Sign Language-Centric Design of ASL Survey Tools**
Shruti Mahajan *(Worcester Polytechnic Institute)*
Zoey Walker *(ASL Ed Center)*
Rachel Boll *(ASL Ed Center)*
Michelle Santacreu *(Worcester Polytechnic Institute)*
Ally Salvino *(Worcester Polytechnic Institute)*
Michael Westfort *(ASL Ed Center)*
Jeanne Reis *(ASL Ed Center)*
Erin Solovey *(Worcester Polytechnic Institute)*

Paper539: **We Play and Learn Rhythmically: Gesture-based Rhythm Game for Children with Intellectual Developmental Disabilities to Learn Manual Sign**
Youjin Choi *(Gwangju Institute of Science and Technology)*
JooYeong Kim *(Gwangju Institute of Science and Technology)*
Chan Woo Park *(Dankook Univ)*
Jeongyoun Kim *(Chosun University)*
Ji Hyun Yi *(Gwangju Institute of Science and Technology)*
Jin-Hyuk Hong *(Gwangju Institute of Science and Technology, Gwangju Institute of Science and Technology)*

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Paper540: Diffraction-in-action: Designerly Explorations of Agential Realism Through Lived Data

Pedro Sanches *(ITI/Larsys, Umeå University)*
Noura Howell *(Georgia Institute of Technology)*
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Tim Au Yeung *(University of Calgary)*
Kathryn Blair *(University of Calgary)*
Kurtis Danyluk *(University of Calgary)*
Georgina Freeman *(University of Calgary)*
Marcus Friedel *(University of Calgary)*
Carmen Hull *(University of Calgary)*
Michael Hung *(University of Calgary)*
Sydney Pratte *(University of Calgary)*
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Joni Salminen *(Hamad Bin Khalifa University, University of Vaasa)*
Kathleen Guan *(University College London)*
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Janet Chen *(Cornell University)*
Allison McDonald *(University of Michigan)*
Yixin Zou *(University of Michigan)*
Emily Tseng *(Cornell Tech)*
Kevin Roundy *(NortonLifeLock Research Group)*
Acar Tamersoy *(NortonLifeLock)*
Florian Schaub *(University of Michigan)*
Thomas Ristenpart *(Cornell Tech)*
Nicola Dell *(Cornell Tech)*

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Palashi Vaghela *(Cornell University)*
Steven Jackson *(Cornell University)*
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Bert Vandenberghe *(KU Leuven)*
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Eva Hornecker *(Bauhaus-Universität Weimar)*
Rua Williams *(University of Florida)*
Judith Good *(University of Sussex)*

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Daniel Nkemelu *(Georgia Institute of Technology)*
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Sushrut Jadhav *(University College London)*
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Jan Gugenheimer *(Institut Polytechnique de Paris)*
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Nuwan Janaka *(National University of Singapore)*
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Shan Zhang *(National University of Singapore)*
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Jing Qian *(Brown University, Brown University)*
Qi Sun *(New York University, New York University)*
Curtis Wigington *(Adobe Research, Adobe Research)*
Han Han *(Université Paris-Saclay, CNRS, Inria, Université Paris-Saclay, CNRS, Inria)*
Tong Sun *(Adobe Research, Adobe Research)*
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James Tompkin *(Brown University, Brown University)*
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Ryo Suzuki *(University of Calgary)*
Adnan Karim *(University of Calgary)*
Tian Xia *(University of Calgary)*
Hooman Hedayati *(University of Colorado Boulder)*
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Michel Beaudouin-Lafon *(Université Paris-Saclay, CNRS, Inria)*

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Emilie Arendttorp *(Aalborg University)*
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Heike Winschiers-Theophilus *(Namibia University of Sceince and Technology)*
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Chunyang Chen *(Monash University, Monash University)*
Junjie Wang *(Institute of Software, Chinese Academy of Sciences, Institute of Software, Chinese Academy of Sciences)*
Yuekai Huang *(University of Chinese Academy of Sciences, Beijing, China; Laboratory for Internet Software Technologies, Institute of Software Chinese Academy of Sciences, Beijing, China;, University of Chinese Academy of Sciences, Beijing, China; Laboratory for Internet Software Technologies, Institute of Software Chinese Academy of Sciences, Beijing, China;)*
Jun Hu *(Institute of Software Chinese Academy of Sciences, Institute of Software Chinese Academy of Sciences)*
Qing Wang *(Institute of Software Chinese Academy of Sciences, Institute of Software Chinese Academy of Sciences)*

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Levi Erickson *(Purdue University, Purdue University)*
Yangzi Dong *(Purdue University, Purdue University)*
Joey Huang *(University of California, Irvine , University of California, Irvine)*
Alexa Bushinski *(Purdue University, Purdue University)*
Sraven Saradhi *(Purdue University, Purdue University)*
Ana Villanueva *(Purdue University, Purdue University)*
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Billie Sun *(Independent)*
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Lorrie Cranor *(Carnegie Mellon University)*

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John Dickerson *(University of Maryland)*
Elissa Redmiles *(Max Plank Institute for Software Systems)*

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Kimi Wenzel *(Carnegie Mellon University)*
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Isadora Krsek *(Carnegie Mellon University)*
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Alicia DeVos *(Carnegie Mellon University)*
Aditi Dhabalia *(Carnegie Mellon University)*

Hong Shen *(Carnegie Mellon University)*
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Weizhou Luo *(Technische Universität Dresden)*
Anke Lehmann *(Technische Universität Dresden)*
Hjalmar Widengren *(Technische Universität Dresden)*
Raimund Dachselt *(Technische Universität Dresden, Technische Universität Dresden)*

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Kyle Montague *(Northumbria University)*
Matt Baillie Smith *(Northumbria University)*
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Paper630: **Understanding AR Activism: An Interview Study with Creators of Augmented Reality Experiences for Social Change**

Rafael Silva *(University of Washington)*
Erica Principe Cruz *(Carnegie Mellon University)*
Daniela Rosner *(University of Washington)*
Dayton Kelly *(University of Washington)*
Andrés Monroy-Hernández *(Snap, Princeton University)*
Fannie Liu *(Snap Inc.)*

Paper631: **Care Workers Making Use of Robots: Results of a Three-Month Study on Human-Robot Interaction within a Care Home**

Felix Carros *(University of Siegen)*
Isabel Schwaninger *(TU Wien)*
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Volker Wulf *(Institute of Information Systems and New Media)*

Paper632: **Something Personal from the Metaverse: Goals, Topics, and Contextual Factors of Self-Disclosure in Commercial Social VR**

Philipp Sykownik *(University of Duisburg-Essen)*
Divine Maloney *(Clemson University)*
Guo Freeman *(Clemson University)*
Maic Masuch *(University of Duisburg-Essen)*

Papers: Immersion

Paper633: **The Effect of the Vergence-Accommodation Conflict on Virtual Hand Pointing in Immersive Displays**

Anil Ufuk Batmaz *(Kadir Has University)*
Mayra Barrera Machuca *(Dalhousie University)*
Junwei Sun *(Huawei Human Machine Interaction Lab)*

Wolfgang Stuerzlinger *(Simon Fraser University)*

Paper634: **Causality-preserving Asynchronous Reality**
Andreas Fender *(ETH Zürich)*
Christian Holz *(ETH Zürich)*

Paper635: **Designing Visuo-Haptic Illusions with Proxies in Virtual Reality: Exploration of Grasp, Movement Trajectory and Object Mass**
Martin Feick *(Saarland Informatics Campus)*
Kora Regitz *(Saarland Informatics Campus)*
Anthony Tang *(University of Toronto)*
Antonio Krüger *(DFKI, Saarland Informatics Campus)*

Paper636: **DreamStream: Immersive and Interactive spectating in VR**
Balasaravanan Thoravi Kumaravel *(UC Berkeley, Microsoft Research)*
Andrew Wilson *(Microsoft Research)*

Paper637: **O&O: A DIY toolkit for designing and rapid prototyping olfactory interfaces**
Yuxuan Lei *(Tsinghua University, Massachusetts Institute of Technology)*
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