BRENNAN JONES

Email: brennanjones@acm.org Website: brennanjones.com

My research in human-computer interaction (HCI) and computer-supported cooperative work (CSCW) focuses on **designing interactive systems for social situation awareness in human-human and human-agent communication.** I explore how technology can identify and properly support appropriate information transmission in communication, such as when interacting with other individuals (e.g., teleconferencing, distributed collaboration) and with anthropomorphized agents and AI tools (human-agent communication). My work aims to **make technology-mediated communication richer and more equitable for people in different circumstances** and **foster effective long-term human-AI partnerships** to help people achieve their goals. Much of my work is community grounded and done in collaboration with non-profit organizations and industry collaborators. I have published at top-tier HCI venues including ACM CHI, CSCW, DIS, and IEEE ISMAR, mentored several talented and highly motivated individuals, and taught HCI at the graduate and undergraduate levels.

EDUCATION

Ph.D. in Computer Science Apr. 2017 - Jun. 2021
Research area: Human-Computer Interaction (HCI), Computer-Supported Cooperative Work (CSCW)
University of Calgary, Calgary, AB, Canada, GPA: 4.00/4.00
Supervisory committee: Dr. Anthony Tang (University of Toronto), Dr. Carman Neustaedter (Simon Fraser University), Dr. Ehud Sharlin, Dr. Wesley Willett
Thesis title: *Designing Remote Collaboration Technologies for Wilderness Search and Rescue*

Visiting Ph.D. Scholar Apr. 2017 - Aug. 2018, Jan. 2019 - Jun. 2021
Simon Fraser University School of Interactive Arts & Technology, Surrey, BC, Canada
Advisor: Dr. Carman Neustaedter

M.Sc. in Computer Science Sep. 2014 - Dec. 2016
Research area: Human-Computer Interaction (HCI), Computer-Supported Cooperative Work (CSCW)
University of Calgary, Calgary, AB, Canada, GPA: 3.85/4.00
Thesis advisor: Dr. Anthony Tang
Thesis title: *Elevating Communication, Collaboration, and Shared Experiences between Peers in Mobile Video Communication using Drones*

B.Sc. in Computer Science (with First-Class Honours) Sep. 2011 - Apr. 2014
Concentration: Human-Computer Interaction (HCI)
University of Calgary, Calgary, AB, Canada, GPA: 3.75/4.00
Honours thesis title: *Improving Collaboration in Online Group Art Therapy*
Extracurricular activities: RezNet, UCalgaryCares

Computer Science (University Transfer) Sep. 2010 - Apr. 2011
Mount Royal University, Calgary, AB, Canada, GPA: 3.96/4.00
Extracurricular activities: Students in Free Enterprise (SIFE MRU)

WORK EXPERIENCE

Current:

Postdoctoral Fellow – w./ Dr. Anastasia Kuzminykh & Dr. Young-Ho Kim (NAVER AI Lab) May 2024 - now
University of Toronto Faculty of Information (iSchool) – COoKIE Group, Toronto, ON, Canada
Conducting research on human-AI communication, social/conversational agents, long-term human-AI partnerships, memory mechanisms in intelligent agents, AI-supported decision making, and extended reality (XR) interactions. Designed and conducted qualitative research on users' needs of long-term memory in AI systems like ChatGPT and Claude, revealing users' preferences for what information such systems should remember from users' prolonged interactions and what mechanisms they should provide for users to manage these systems' memories. Co-ran a mixed-methods study revealing how people use paralinguistic cues (e.g., pauses, vocal inflections) to express and understand different levels of certainty when communicating with voice assistants (e.g., Google Nest, Siri), thus revealing how such voice assistants should be designed to communicate and understand varying levels of confidence. Conducted qualitative analysis of design workshops to understand knowledge workers' pain points in prolonged usage of VR controllers for tasks such as CAD and 3D modelling, and their considerations for designing a novel cane-shaped XR controller. Co-mentoring students and research assistants, teaching them skills in data analysis, literature review, survey design, participant recruitment, and data collection. Collaborating with researchers at NAVER AI Lab, Hong Kong University of Science and Technology (HKUST) Guangzhou, and Xi'an Jiaotong-Liverpool University (XJTLU).

Past:

Sessional Instructor – INF2208H: User-Centred Systems for Communication Sep. 2024 - Dec. 2024
University of Toronto Faculty of Information (iSchool), Toronto, ON, Canada
Taught a graduate-level course on systems for human-human and human-agent communication. Topics included theoretical mechanisms and UI/UX design principles for developing technologies to support communication through systems (e.g., teleconferencing), around systems (e.g., collaborative software and hardware), and directly with systems (e.g., human communication with intelligent agents). Exposed students to existing academic research and publications on designing technologies for communication as well as current practices in industry around such systems' implementations in practical scenarios.

Research Fellow (Volunteer; Part-time) – w./ Dr. Shaomei Wu Apr. 2024 - Aug. 2024
AImpower.org, Remote
Worked on research to study the needs and experiences of individuals who stutter when using video conferencing technologies. Helped with co-designing and developing video conferencing tools that are inclusive of those with communication difficulties. Helped develop a Zoom app to support inclusive meetings with individuals who stutter, and co-designed a longitudinal study to understand the usage, perceptions, and impacts of this app by individuals with communication difficulties and their peers.

Postdoctoral (Visiting) Researcher – w./ Dr. Stefan Scherer & Dr. Yan Xu Apr. 2022 - Mar. 2024
Meta – Reality Labs Research (RL-R), Redmond, WA, USA
Designed, prototyped, and studied novel interfaces for context-aware human-AI interaction on smart glasses and wearable augmented reality (AR). Designed and built a prototype of a conversational AI agent and ran a one-month field study to understand the user value and users' needs from conversational AI agents running on smart

glasses. Helped analyze data from a large-scale three-month diary study with several hundred participants, helped synthesize the results into a framework to inform the design of context-aware AI systems for smart glasses, and later co-ran a multi-stage online interview study to derive further design recommendations. Collaborated with AI and machine learning (ML) engineers to design data-collection efforts to train ML models, including a campaign to collect egocentric video as part of Project Aria (https://www.projectaria.com/). Collaborated with designers to help translate research findings into design decisions. Collaborated with engineers and designers in hackathons to help them explore new system prototype and design ideas. Mentored two research interns and five research assistants, prepared two patent applications for novel interface designs, and published three academic papers (with another under preparation).

User Experience (UX) Researcher III Nov. 2021 - Mar. 2022

Google – Stadia and Immersive Stream Team (Contractor via Adecco), Remote

Worked on UX research to help build and improve tools used by developers and publishers to develop and port their games to the Stadia and Immersive Stream cloud-gaming platforms. Collaborated with partners in design, engineering, and project management to determine relevant research questions and business needs. Co-ran a large survey study to understand developer and publisher satisfaction levels with Stadia's developer and publisher tools. Co-designed a remote user study to evaluate one of Stadia's new tools used to test games running in the cloud. Co-ran a workshop with partners to help them translate the research findings from several internal studies into business decisions and next steps.

JEM Research Intern – w./ Dr. Andy Wilson, Dr. Kori Inkpen, Dr. John Tang, Dr. Sasa Junuzovic, & Greg Baribault (Microsoft Teams product group) Jun. 2021 - Oct. 2021

Microsoft Research (MSR), Redmond, WA, USA (Remote)

Worked on research exploring how to utilize spatial audio to improve hybrid video conferencing in meeting rooms, in collaboration with the Microsoft Teams product group, the MSR Extended Perception, Interaction & Cognition (EPIC) research group, and the MSR Cambridge Socially Intelligent Meetings research group. Designed, prototyped, and evaluated (through a lab study) different spatial audio configurations for the placements of remote users' voices in Teams meeting rooms (using different mono, stereo, and surround-sound audio layouts). This work led to spatial audio being integrated into the Teams Rooms product (https://tinyurl.com/teams-spatial-audio) and an academic publication at ACM CHI 2023.

Graduate (M.Sc./Ph.D.) Researcher – w./ Dr. Anthony Tang Sep. 2014 - Jun. 2021

University of Calgary Department of Computer Science – Interactions Lab (iLab), Calgary, AB, Canada

Worked on research related to telepresence, video communication, remote collaboration, robotics (e.g., telepresence robots, drones), and emergency response. Designed, implemented, and evaluated prototypes; conducted experiments and foundational studies using various research methodologies; collaborated with other students, post-docs, and professors; written and published papers and posters at top-tier venues; presented and demoed at workshops and conferences; and helped other colleagues with their presentations and written work.

Visiting Ph.D. Scholar – w./ Dr. Carman Neustaedter Apr. 2017 - Aug. 2018, Jan. 2019 - Jun. 2021

Simon Fraser University School of Interactive Arts & Technology – Connections Lab (cLab), Surrey, BC, Canada

Worked in collaboration with my Ph.D. co-supervisor and other students in the lab on research related to video communication, social computing, remote collaboration, and telepresence. Conducted lab experiments and field

studies to evaluate novel video-communication interfaces. Co-ran a contextual-interview study to understand the needs of 9-1-1 call takers and dispatchers from video-calling interfaces. Mentored junior researchers, including interns, undergraduate, and junior graduate students.

Research Intern – w./ Dr. Sean Rintel Jul. 2019 - Sep. 2019
Microsoft Research (MSR) Cambridge – Socially Intelligent Meetings Project, Cambridge, England, UK
Worked on a two-way extended-reality (XR) telepresence-robot augmentation utilizing an AR avatar overlay, immersive VR, and 360° video streaming. Ran a research study with this prototype to understand how pairs of users adapt to different styles of remote collaboration and 'belonging to a space'.

Research Intern – w./ Ignacio Avellino, Dr. Cédric Fleury, Dr. Michel Beaudouin-Lafon, Dr. Joseph Malloch, & Dr. Wendy Mackay Apr. 2016 - Sep. 2016
Inria Saclay – ExSitu Group, Orsay, France
Worked on research involving the design and development of a telepresence system for distributed workrooms with large wall displays. Our explorations involved the use of motion-capture systems (e.g., VICON), moving on-screen videos, and telepresence robots acting as physical surrogates for remote users. Helped prototype input devices and run a user study on remote collaboration through large wall displays.

Teaching Assistant – CPSC 481: Human-Computer Interaction I Sep. 2015 - Dec. 2015
University of Calgary Department of Computer Science, Calgary, AB, Canada
Assisted students with their project work; provided feedback on students' work; taught material not taught in lectures; taught programming and development in Microsoft Visual Studio and Expression Blend; prepared tutorial slides; evaluated students' work (portfolios, presentations, and assignment deliverables).

Undergraduate Researcher – w./ Dr. Anthony Tang Nov. 2012 - Aug. 2014
University of Calgary Department of Computer Science – Interactions Lab (iLab), Calgary, AB, Canada
Worked on undergraduate research projects on remote group art therapy, physical and tangible gaming using Sphero robots, and camera work in mobile video communication.

Web Developer Intern Jul. 2012 - Nov. 2012
E-Patches and Crests, Remote
Assisted in developing and maintaining the company's website; helped implement an online checkout system for custom orders; and updated online newsletters and the website's main stylesheet. Wrote code using PHP, MySQL, HTML, and CSS.

RezNet Technician Sep. 2011 - Apr. 2012
University of Calgary Residence Services, Calgary, AB, Canada
Assisted students living in residence with connecting to the Internet and opening IT accounts; troubleshot network issues; and updated software on students' computers.

PUBLICATIONS

Journal Articles (refereed):

Jones, B., Tang, A., and Neustaedter, C. (2022). RescueCASTR: Exploring Photos and Live Streaming to Support Contextual Awareness in the Wilderness Search and Rescue Command Post. In *Proceedings of the ACM on Human-Computer Interaction, 6 (CSCW1)*, ACM.

Dash, P., Neustaedter, C., **Jones, B.**, and Yip, C. (2022). The Design and Evaluation of Emergency Call Taking User Interfaces for Next Generation 9-1-1. In *Frontiers in Human Dynamics, Digital Impacts*.

Jones, B., Zhang, Y., Wong, P.N.Y., and Rintel, S. (2021). Belonging There: VROOM-ing into the Uncanny Valley of XR Telepresence. In *Proceedings of the ACM on Human-Computer Interaction, 5 (CSCW1)*, ACM.

Jones, B., Tang, A., and Neustaedter, C. (2020). Remote Communication in Wilderness Search and Rescue: Implications for the Design of Emergency Distributed-Collaboration Tools for Network-Sparse Environments. In *Proceedings of the ACM on Human-Computer Interaction, 4 (GROUP)*, ACM.

Yang, L., **Jones, B.**, Neustaedter, C., and Singhal, S. (2018). Shopping Over Distance through a Telepresence Robot. In *Proceedings of the ACM on Human-Computer Interaction, 2 (CSCW)*, ACM. (Acceptance rate: 25.5% - 184/722)

Archival Conference Papers (refereed)*:

Lu, F., Xu, Y., Xu, X., **Jones, B.**, and Malamed, L.M. (2023). Exploring the Impact of User and System Factors on Human-AI Interactions in Head-Worn Displays. In *Proceedings of the 22nd IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2023)*, IEEE. (Acceptance rate: 32% - 128/396)

Hyrkas, J., Wilson, A.D., Tang, J., Gamper, H., Sodoma, H., Tankelevitch, L., Inkpen, K., Chappidi, S., and **Jones, B.** (2023). Spatialized Audio and Hybrid Video Conferencing: Where Should Voices be Positioned for People in the Room and Remote Headset Users? In *Proceedings of the 2023 ACM Conference on Human Factors in Computing Systems (CHI 2023)*, ACM. (Acceptance rate: 28% - 880/3182)

Jones, B., Maiero, J., Mogharrab, A., Aguilar, I.A., Adhikari, A., Riecke, B.E., Kruijff, E., Neustaedter, C., and Lindeman, R.W. (2020). FeetBack: Augmenting Robotic Telepresence with Haptic Feedback on the Feet. In *Proceedings of the 2020 ACM International Conference on Multimodal Interaction (ICMI 2020)*, ACM, 194-203. (Acceptance rate: 29% - 65/159)

Heshmat, Y., **Jones, B.**, Xiong, X., Neustaedter, C., Tang, A., Riecke, B.E., and Yang, L. (2018). Geocaching with a Beam: Shared Outdoor Activities through a Telepresence Robot with 360 Degree Viewing. In *Proceedings of the 2018 ACM Conference on Human Factors in Computing Systems (CHI 2018)*, ACM. (Acceptance rate: 25.7% - 666/2592)

* Due to the fast-paced nature of research in my discipline, some conference publication venues are considered equivalent in rank to journals: https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=eng_humancomputerinteraction

Neustaedter, C., **Jones, B.**, O'Hara, K., and Sellen, A. (2018). The Benefits and Challenges of Video Calling for Emergency Situations. In *Proceedings of the 2018 ACM Conference on Human Factors in Computing Systems (CHI 2018)*, ACM. (Acceptance rate: 25.7% - 666/2592) - **Honourable Mention Award (top 5% of all submissions)**

Jones, B., Dillman, K., Tang, R., Tang, A., Sharlin, E., Oehlberg, L., Neustaedter, C., and Bateman, S. (2016). Elevating Communication, Collaboration, and Shared Experiences in Mobile Video through Drones. In *Proceedings of the 2016 ACM Conference on Designing Interactive Systems (DIS 2016)*, ACM, 1123-1135. (Acceptance rate: 26% - 107/418)

Jones, B., Witcraft, A., Bateman, S., Neustaedter, C., and Tang, A. (2015). Mechanics of Camera Work in Mobile Video Collaboration. In *Proceedings of the 2015 ACM Conference on Human Factors in Computing Systems (CHI 2015)*, ACM, 957-966. (Acceptance rate: 23% - 486/2120)

Book Chapters:

Jones, B., Tang, A., Neustaedter, C., Antle, A.N., and McLaren, E.S. (2020). Designing Technology for Shared Communication and Awareness in Wilderness Search and Rescue. In McCrickard, S., Jones, M., and Stelter, T. (Eds.), *HCI Outdoors: Theory, Design, Methods and Applications*, Springer, 175-194.

Neustaedter, C., Heshmat, Y., **Jones, B.**, Forghani, A., and Xiong, X. (2020). Shared Family Experiences over Distance in the Outdoors. In McCrickard, S., Jones, M., and Stelter, T. (Eds.), *HCI Outdoors: Theory, Design, Methods and Applications*, Springer, 155-174.

Prins Hankinson, S., **Jones, B.**, and Collie, K. (2017). Adapting Art Therapy for Online Groups. In Brooke, S.L. (Ed.), *Combining the Creative Therapies with Technology: Using Social Media and Online Counseling to Treat Clients*, Charles C. Thomas Publisher Ltd., 34-52.

Non-Archival Conference Papers (refereed):

Jones, B., Stemmler, K., Su, E., Kim, Y., and Kuzminykh, A. (2025). Users' Expectations and Practices with Agent Memory. In *Extended Abstracts of the 2025 ACM Conference on Human Factors in Computing Systems (CHI 2025)*, ACM. (Acceptance rate: 32.83% - 620/1888)

Zhang, Y., Li, Z., Shi, R., **Jones, B.**, and Liang, H. (2025). CaneXR: Building a Cane-Based XR Controller for Knowledge Work. In *Extended Abstracts of the 2025 ACM Conference on Human Factors in Computing Systems (CHI 2025)*, ACM. (Acceptance rate: 32.83% - 620/1888)

Jones, B., Xu, Y., Li, Q., and Scherer, S. (2024). Designing a Proactive Context-Aware AI Chatbot for People's Long-Term Goals. In *Extended Abstracts of the 2024 ACM Conference on Human Factors in Computing Systems (CHI 2024)*, ACM. (Acceptance rate: 33.88% - 391/1154)

Zhang, Y., **Jones, B.**, Rintel, S., and Neustaedter, C. (2021). XRmas: Extended Reality Multi-Agency Spaces for a Magical Remote Christmas. In *Companion of the 2021 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2021)*, ACM.

Jones, B., Zhang, Y., Wong, P.N.Y., and Rintel, S. (2020). VROOM: Virtual Robot Overlay for Online Meetings. In *Extended Abstracts of the 2020 ACM Conference on Human Factors in Computing Systems (CHI 2020)*, ACM. (Acceptance rate: 41.8% - 323/772)

Jones, B., Tang, A., Neustaedter, C., Antle, A.N., and McLaren, E.S. (2018). Designing a Tangible Interface for Manager Awareness in Wilderness Search and Rescue. In *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2018)*, ACM, 161-164. (Acceptance rate: 28% - 1847/6682)

Jones, B., Dillman, K., Manesh, S.A., Sharlin, E., and Tang, A. (2014). Designing an Immersive and Entertaining Pervasive Gameplay Experience with Spheros as Game and Interface Elements. In *Proceedings of the 2014 ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play (CHI PLAY 2014)*, ACM, 425-426. (Acceptance rate: 30% - 233/778)

Jones, B., Prins Hankinson, S., Collie, K., and Tang, A. (2014). Supporting Non-Verbal Visual Communication in Online Group Art Therapy. In *Extended Abstracts of the 2014 ACM Conference on Human Factors in Computing Systems (CHI 2014)*, ACM, 1759-1764. (Acceptance rate: 31% - 1000/3200)

Doctoral Consortium (peer reviewed):

Jones, B. (2018). Designing for Distributed Collaboration in Wilderness Search and Rescue. In *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2018; Doctoral Colloquium)*, ACM, 77-80.

Workshop Papers (peer reviewed):

Jones, B., Xu, Y., Hood, M.A., Kader, M.S., and Eghbalzadeh, H. (2023). Using Generative AI to Produce Situated Action Recommendations in Augmented Reality for High-Level Goals. In *GenAICHI 2023: Workshop on Generative AI and HCI at CHI 2023*.

Zhang, Y., **Jones, B.**, and Rintel, S. (2021). XRmas: Virtual Augmented Experience for Remote Family Meetings during Christmas. (Video abstract for workshop). In *Social VR: A New Medium for Remote Communication and Collaboration (Workshop at CHI 2021)*.

Jones, B., Zhang, Y., Wong, P.N.Y., Rintel, S., and Heshmat, Y. (2020). VR-Enabled Telepresence as a Bridge for People, Environments, and Experiences. In *Social VR: A New Medium for Remote Communication and Collaboration (Workshop at CHI 2020)*.

Zhang, Y. and **Jones, B.** (2020). Virtual Reality for Telecommuting. In *Social VR: A New Medium for Remote Communication and Collaboration (Workshop at CHI 2020)*.

Heshmat, Y., **Jones, B.**, and Neustaedter, C. (2020). 360° View for Sharing Geocaching Experience with a Telepresence Robot. In *Social VR: A New Medium for Remote Communication and Collaboration (Workshop at CHI 2020)*.

Jones, B., Tang, A., and Neustaedter, C. (2019). Drones for Remote Collaboration in Wilderness Search and Rescue. In *iHDI: International workshop on Human-Drone Interaction (Workshop at CHI 2019)*.

Jones, B., Tang, A., and Neustaedter, C. (2018). Designing Outdoor Remote-Communication Tools for Serious Collaborative Activities. In *HCI Outdoors: A CHI 2018 Workshop on Understanding Human-Computer Interaction in the Outdoors*.

Jones, B., and Tang, A. (2015). Improving Collaboration and Shared Experiences in Out-and-About Mobile Video Conferencing. In *Everyday Telepresence: Emerging Practices and Future Research (CHI 2015 Workshop)*.

Technical Reports:

Neustaedter, C., **Jones, B.**, O'Hara, K., and Sellen, A. (2017). An Analysis of Next Generation 9-1-1: Video Calling for Emergency Situations. *Connections Lab Technical Report 2017-0605-01*, Simon Fraser University.

Theses:

Jones, B. (2021). Designing Remote Collaboration Technologies for Wilderness Search and Rescue. *Ph.D. Dissertation*, University of Calgary.

Jones, B. (2016). Elevating Communication, Collaboration, and Shared Experiences between Peers in Mobile Video Communication using Drones. *M.Sc. Thesis*, University of Calgary.

Jones, B. (2014). Improving Collaboration in Online Group Art Therapy. *B.Sc. Honours Thesis*, Univ. of Calgary.

TEACHING GUEST LECTURES AND WORKSHOPS

Time Management in Academia Mar. 2025
Workshop: COoKIE Group, Faculty of Information (iSchool), University of Toronto, Toronto, ON, Canada

Research Methods for User-Centred Design: Thematic Analysis Feb. 2025
Guest Lecture: INF2169H: User-Centred Information Systems Development, University of Toronto, Canada

Remote Collaboration in Mixed Reality Oct. 2024
Guest Lecture: COSC2476-77: Mixed Reality, RMIT University, Melbourne, VIC, Australia (Online Lecture)

RESEARCH TALKS AND PRESENTATIONS

Designing Technologies to Bridge People, Places, Spaces, and Information Jun. 2024
Candidate Talk: Autodesk Research, Toronto, ON, Canada (Online Talk)

Designing Collaboration Technologies to Improve Empathy May 2024
Candidate Talk: Department of Computer Science, Toronto Metropolitan University (TMU), Toronto, ON, Canada

Designing a Proactive Context-Aware AI Chatbot for People's Long-Term Goals May 2024
CHI 2024 Poster, Honolulu, HI, USA

Bridging People, Places, Spaces, and Data through Telepresence Mar. 2024
Candidate Talk: Department of Informatics, New Jersey Institute of Technology (NJIT), Newark, NJ, USA

Bridging People, Places, Spaces, and Data through Telepresence Jun. 2023
Invited Talk: Design Lab, University of California San Diego (UCSD), La Jolla, CA, USA

Bridging People, Places, Spaces, and Data through Telepresence May 2023
Invited Talk: Department of Computing Guest Lecture Series, Xi'an Jiaotong-Liverpool University, Suzhou, China

Bridging People, Places, Spaces, and Data through Telepresence Apr. 2023
Invited Talk: Dynamic Graphics Project (DGP), Dept. Computer Sci., University of Toronto, Canada (Online Talk)

RescueCASTR: Exploring Photos and Live Streaming to Support Contextual Awareness in the Wilderness Search and Rescue Command Post Nov. 2022
CSCW 2022 Paper Presentation, Online/Virtual Conference

Bridging People, Places, Spaces, and Data through Telepresence Jan. 2022
Candidate Talk: Meta Reality Labs Research (RL-R), Redmond, WA, USA (Online Talk)

Belonging There: VROOM-ing into the Uncanny Valley of XR Telepresence Oct. 2021
CSCW 2021 Paper Presentation, Online/Virtual Conference

Bridging People and Places through Telepresence Apr. 2021
Candidate Talk: Microsoft Research (MSR) Cambridge, Cambridge, England, UK (Online Talk)

Bridging People and Places through Telepresence Apr. 2021
Candidate Talk: Microsoft Research (MSR), Redmond, WA, USA (Online Talk)

Bridging People and Places through Telepresence Mar. 2021
Invited Talk: Michigan Information Interaction (Mi2) Lab, University of Michigan, Ann Arbor, MI, USA (Online Talk)

FeetBack: Augmenting Robotic Telepresence with Haptic Feedback on the Feet Oct. 2020
ICMI 2020 Paper Presentation, Online/Virtual Conference

VR-Enabled Telepresence as a Bridge for People, Environments, and Experiences Apr. 2020
CHI 2020 Workshop Presentation, Online/Virtual Workshop
Workshop: Social VR: A New Medium for Remote Communication and Collaboration

Remote Communication in Wilderness Search and Rescue Jan. 2020
GROUP 2020 Paper Presentation, Sanibel, FL, USA

Designing for Remote Communication, Collaboration, and Telepresence in the Outdoors Oct. 2019
Invited Talk: Participatory Information Technology (PIT) Research Centre, Aarhus Universitet, Aarhus, Denmark

Designing for Remote Communication, Collaboration, and Telepresence in the Outdoors Oct. 2019
Invited Talk: ExSitu Group, Inria Saclay & Université Paris-Saclay, Orsay, France

Drones for Remote Collaboration in Wilderness Search and Rescue May 2019
CHI 2019 Workshop Presentation, Glasgow, Scotland, UK
Workshop: iHDI: International workshop on Human-Drone Interaction

Designing a Tangible Interface for Manager Awareness in Wilderness Search and Rescue Nov. 2018
CSCW 2018 Poster, Jersey City, NJ, USA

Designing for Distributed Collaboration in Wilderness Search and Rescue Nov. 2018
CSCW 2018 Doctoral Colloquium and Poster, Jersey City, NJ, USA

Designing Outdoor Remote-Communication Tools for Serious Collaborative Activities Apr. 2018
CHI 2018 Workshop Presentation, Montréal, QC, Canada
Workshop: HCI Outdoors: A CHI 2018 Workshop on Understanding Human-Computer Interaction in the Outdoors

Elev. Communication, Collaboration, and Shared Experiences in Mobile Video through Drones Jun. 2016
DIS 2016 Paper Presentation, Brisbane, QLD, Australia

Elev. Communication, Collaboration, and Shared Experiences in Mobile Video through Drones Feb. 2016
Invited Talk: Connections Lab (cLab), School of Interactive Arts & Tech., Simon Fraser Univ., Surrey, BC, Canada

Mechanics of Camera Work in Mobile Video Collaboration Apr. 2015
CHI 2015 Paper Presentation, Seoul, South Korea

Improving Collaboration and Shared Experiences in Out-and-About Mobile Video Conferencing Apr. 2015
CHI 2015 Workshop Presentation, Seoul, South Korea
Workshop: Everyday Telepresence: Emerging Practices and Future Research Directions

Designing an Immersive and Entertaining Pervasive Gameplay Experience with Spheros Oct. 2014
CHI PLAY 2014 Madness Presentation, Poster, and Demo, Toronto, ON, Canada

Designing an Immersive and Entertaining Pervasive Gameplay Experience with Spheros Oct. 2014
SurfNet 2014 Poster and Demo, Calgary, AB, Canada

Collaboration in Mobile Video Conferencing Oct. 2014
SurfNet 2014 Madness Presentation, Calgary, AB, Canada

Supporting Non-Verbal Visual Communication in Online Group Art Therapy Apr. 2014
CHI 2014 Poster, Toronto, ON, Canada

Non-Verbal Visual Communication in Online Art Therapy Nov. 2013
University of Calgary SU Undergraduate Research Symposium Poster, Calgary, AB, Canada

OTHER CONTRIBUTIONS

Prototypes for Online Art Therapy Tools Feb. 2019
Digital International Creative Arts Therapies Symposium (DICATS), Online/Virtual Conference
Presentation of work in collaboration with Sara Prins Hankinson, Kate Collie, and Anthony Tang.
Presented by Sara Prins Hankinson. https://youtu.be/S9QMUHkLRWU

COMMUNITY AND VOLUNTEER EXPERIENCE

Posters and Demonstrations Co-Chair 2025
Graphics Interface (GI) Conference
Member of the organizing committee for GI 2025, co-managing the posters and demonstrations tracks.

Program Committee (PC) Member 2025
ACM CUI Conference, Full Paper Track
Manage reviewers for the full paper track for the ACM CUI conference.

Conference and Journal Reviewer – multiple occasions 2014 - now

Conferences: *CHI 2025, CHI 2024, Ubicomp-ISWC 2023, UIST 2023, CHI 2023, CSCW 2021, CHI 2021, CSCW 2020, RO-MAN 2020, DIS 2020, CHI 2020, GROUP 2020, UIST 2019, DIS 2019, CHI 2019, MobileHCI 2018, CSCW 2018, DIS 2018, CHI 2018, TEI 2018, ISS 2017, RO-MAN 2017, CHI 2017, CHI 2015*

Journals: *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT), Proceedings of the ACM on Human-Computer Interaction (PACM HCI), IEEE Robotics and Automation Letters (RA-L), International Journal of Human-Computer Studies (IJHCS), Journal on Multimodal User Interfaces (JMUI)*

Reviewed papers submitted to top international conferences and journals in the fields of Human-Computer Interaction (HCI), Computer-Supported Cooperative Work (CSCW), and Human-Robot Interaction (HRI).

Program Committee (PC) Member – multiple occasions 2018 - 2021

ACM CHI Conference, Late-Breaking-Work (LBW) Track

Assign and manage reviewers for the LBW track for the ACM CHI conference.

Program Committee (PC) Meeting Student Volunteer Assistant – multiple occasions 2019 - 2020

ACM DIS Conference

Assist Session Chairs and the Technical Chairs during the PC meeting for the ACM DIS conference.

Student Volunteer – multiple occasions 2014 - 2020

Conferences: GROUP 2020, CHI 2019, CHI 2018, DIS 2016, CHI 2015, CHI PLAY 2014

Assisted with tasks that kept the conferences running. Duties included (but were not limited to): telepresence assistance; workshop assistance; session monitoring; and assistance with demo and poster receptions.

Telepresence Assistant May 2019

ACM CHI Conference 2019

Assisted the telepresence chairs in providing opportunities to allow some attendees to attend and participate in conference and workshop activities remotely.

Graduate College Scholar Sep. 2018 - Dec. 2018

University of Calgary Graduate College

The College is a cohort of graduate students at the University of Calgary who strive to connect the university and city communities and promote discourse on important and challenging topics. As a member, I served on a subcommittee, helped organize events on and off campus, and volunteered in the community.

Residence Move-In Volunteer Sep. 2012 and Aug. 2015

University of Calgary Residence Services, Calgary, AB, Canada

Helped residence students move their belongings into their suites on Move-In Day.

Volunteer – multiple occasions Oct. 2011 - Aug. 2014

University of Calgary Centre for Community-Engaged Learning, Calgary, AB, Canada

Sample duties: helped build an elementary-school playground; helped sort clothing at the Mustard Seed; helped recruit for UCalgaryCares programs; helped sort flood-relief donations at the Siksika First Nation.

Volunteer Aug. 2013

Alberta Flood Aid Benefit Concert, Calgary, AB, Canada

Helped clean up the field; set up the VIP area; and directed parking.

Flood-Relief Volunteer Jun. 2013

The City of Calgary, Calgary, AB, Canada

Helped clean up homes in two neighbourhoods on two separate days after the June 2013 flooding in Calgary.

Relay for Life Volunteer – multiple occasions Jun. 2008 - Apr. 2013

Canadian Cancer Society, Strathmore, AB, Canada and Calgary, AB, Canada

Helped set up and run five Relay for Life events in Strathmore and at the University of Calgary.

UCalgaryCares Costa Rica Volunteer May 2012

University of Calgary Centre for Community-Engaged Learning, Isla Chira, Costa Rica.

Travelled with a group of other students to Costa Rica for two weeks to complete numerous volunteer projects for an elementary school and a lodge in a rural island community. The projects involved painting classrooms, sidewalks, fence posts, and bedrooms; repainting a basketball court; and building a bus stop.

Web Developer Sep. 2010 - Apr. 2011

Students in Free Enterprise at Mount Royal University (SIFE MRU), Calgary, AB, Canada

Set up and maintained the organization's team wiki; assisted with the development of the organization's website.

HONOURS AND AWARDS

Special Recognitions for Outstanding Paper Reviews: 2018 - 2024

CHI 2025 LBW, CHI 2024 LBW, CHI 2023, CSCW 2021, CHI 2021, CSCW 2020, DIS 2019, CHI 2018

NSERC Postdoctoral Fellowship (PDF) (CAD$45,000/year for up to two years)* 2022

NSERC Postgraduate Doctoral Scholarship (PGS-D) (CAD$21,000/year) 2018 - 2021

Alberta Innovates Graduate Student Scholarship (CAD$31,500/year)† 2018 - 2020

Best Paper Honourable Mention Award, ACM CHI 2018 2018

For paper "The Benefits and Challenges of Video Calling for Emergency Situations"

U of C Eyes High Doctoral Recruitment Scholarship (CAD$25,000/year)† 2017 - 2020

Alberta Graduate-Student Scholarship (CAD$3000) 2016

U of C Computer Science Department Research Award (CAD$1500) 2015

Alberta Innovates-Technology Futures Graduate Student Scholarship (CAD$26,500/year) 2014 - 2016

NSERC Undergraduate Student Research Award (USRA) (CAD$6000 for 4 months) 2014

Queen Elizabeth II Graduate Scholarship (CAD$10,800)* 2014

U of C SU Undergraduate Research Symposium - GSA Award Honourable Mention (CAD$500) 2013

NSERC Undergraduate Student Research Award (USRA) (CAD$5700 for 4 months) 2013

Jason Lang Scholarship (CAD$1000) 2012 and 2013

Louise McKinney Scholarship (CAD$2500) 2011

* Awarded but not disbursed.

† Reduced to top-up.

MENTORSHIP AND SUPERVISION

Ph.D. Students:

Christina Wei (UToronto) – *Paralinguistic Cues in Human-Agent Interactions (HAI)* 2024

Paula Aoyagui (UToronto) – *Human-Agent Group Decision Making* 2024

Master's Students:

Anshuta Kulkarni (UToronto) – *Linguistic Manifestations of Social Dynamics in HAI* 2024 - now

Ashu Adhikari (SFU) – *FeetBack: Robotic Telepresence with Haptic Feedback on Feet* 2018 - 2020

Undergraduate Students:

Peter Dushniku (UToronto) – *AI for Understanding Sources and Viewpoints in Online Discourse* 2024 - now

Emily Su (UToronto) – *Paralinguistic Cues in HAI, Agent Memory Mechanisms* 2024 - now

Alireza Mogharrab (SFU) – *FeetBack: Robotic Telepresence with Haptic Feedback on Feet* 2018 - 2020

Sumin Kim (SFU) – *FeetBack: Robotic Telepresence with Haptic Feedback on Feet* 2018 - 2020

Abhipsa Panigrahi (SFU) – *FeetBack: Robotic Telepresence with Haptic Feedback on Feet* 2018 - 2020

Xiaoxuan (Anty) Xiong (SFU) – VR Robotic Telepresence for Outdoor Activities 2017 - 2018

Research Interns:

Feiyu Lu (Meta) – *Impacts of User and System Factors on AI Recommendations in XR* 2022 - 2023

Geonsun Lee (Meta) – *Remote Collaboration in Virtual Reality* 2022 - 2023

Research Assistants:

Kelsey Stemmler (UToronto) – Agent Memory Mechanisms 2024 - now

Hannah Nguyen (Meta) – *Context-Aware AI Chatbots, Aria Data Collection for Smart Glasses* 2023 - 2024

Olivia Edgington (Meta) – *AI-Generated Context-Aware Action Recommendations in AR* 2022 – 2023

Teaching Assistants:

Long Hin (Lucas) Wong (UToronto) – *INF2208H: User-Centred Systems for Communication* 2024

PRESS COVERAGE

CTV News (television) "High-tech tool could help rescue crews" May 2022
https://bc.ctvnews.ca/video?clipId=2445911

CTV News (article) "SFU researcher develops new tech-savvy search and rescue system" May 2022
https://bc.ctvnews.ca/sfu-researcher-develops-new-tech-savvy-search-and-rescue-system-1.5910054

Burnaby Now (article) "Researchers develop body cam tech for SAR at Burnaby's SFU" May 2022
https://tinyurl.com/sar-tech-burnaby-now

Metaphorigins (podcast) "S3E6: Tripping Takeoffs & The Interface of Art and Science" Apr. 2021
https://www.kjbmercurio.com/episode26

Microsoft Research (blog) "VROOM: Giving body to telepresence" May 2020
https://aka.ms/AA8bj56

Microsoft Vancouver (blog) "Connection is everything" Feb. 2020
http://web.archive.org/web/20201129041414/https://mcec.microsoft.ca/blog/connection-is-everything/

CBC Spark (radio) “It's a bird, it's a plane, it's...a drone video conferencing system!” Oct. 2015
http://www.cbc.ca/1.3270846

CBC News (article) “Drone study looks to revolutionize video-conferencing” Aug. 2015
http://www.cbc.ca/1.3209183

MEMBERSHIPS AND AFFILIATIONS

Association for Computing Machinery (ACM) (Professional Member)
ACM Special Interest Group on Computer-Human Interaction (SIGCHI) (Professional Member)

SELECTED SKILLS AND QUALIFICATIONS

Human-Computer Interaction:
UX Research, UX Design, Prototyping, Lab Experiments, Field Studies, Observation Studies, Interview Studies, Workshops, Survey Research, Contextual Inquiry, Ethnographic Methods, Qualitative Methods, Quantitative Methods, Mixed-Methods Research

Technologies and Domain-Specific Topics:
Large Language Models (LLMs), Generative AI, Prompt Engineering, Extended Reality (XR/AR/VR/MR) Development, Robotics Programming, Computer Vision, Hardware Prototyping, 3D Printing, Physical Prototyping, Arduino, VICON Motion Capture, Microsoft Kinect, WebRTC, Computer Graphics, Algorithms

Software engineering, programming languages, tools, platforms, and environments:
Unity, JavaScript, Node.js, Python, C#, .NET, Visual Studio, React, React Native, Swift, Objective-C, iOS, HTML, HTML5, CSS, Java, PHP, MySQL, C, C++, Assembly, Object-Oriented Design, Git

Other:
Teaching, Technical Communication, Video Editing, Photo Editing, Oral Communication