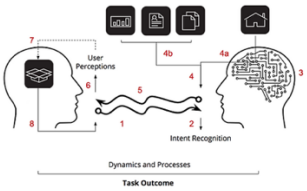
Brennan Jones

https://brennanjones.com/
brennanjones@acm.org

UX and HCI researcher working on technologies for human-AI interaction, technology-mediated communication, extended reality (XR), accessibility, and developer tools. Skilled in running user studies, conducting foundational research, and building prototypes.

SELECTED EXPERIENCE

Postdoctoral Researcher & Course Instructor, ***University of Toronto (in collaboration with NAVER AI Lab)*** **2024.5 – present**



- Designed and conducted qualitative research on users' needs of long-term memory in AI systems like ChatGPT and Claude, revealing that users want these systems to remember task-specific information about them over time, respect privacy, and provide mechanisms for the user to separate, control, and abstract the system's access to memories based on the user's current task-based needs.
- Co-ran a mixed-methods (quantitative and qualitative) study revealing how users use paralinguistic cues (e.g., pauses, vocal inflections, filler words) to express and understand different levels of certainty when communicating with voice assistants such as Siri and Alexa, thus revealing how such voice assistants should be designed to communicate and understand varying levels of confidence.
- Taught a graduate-level UX course on technologies for human-human and human-agent communication. Taught students research and design skills used in industry, and exposed students to current practices around the design and implementation of systems such as for teleconferencing, remote work, and human-AI communication (e.g., chatbots, social robots).
- Mentored six students and research assistants, and taught them skills in qualitative data analysis, literature review, survey design, participant recruitment, and data collection.
- 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, as well as their considerations for designing a cane-shaped XR controller.
- Published two research papers (one as lead, one as co-author) and co-authored an additional journal paper (under review).

Research Fellow (Volunteer; Part-time), ***AImpower.org*** **2024.4 – 2024.8**

- Co-developed a Zoom app to help people who stutter express themselves in teleconferencing meetings: https://liborate.aimpower.org/. Implemented storage of user data and display of disclosure messages in this app.
- Co-designed a longitudinal user study to understand the usage, perceptions, and impacts of this Zoom app, both by individuals with communication difficulties and their peers.

Postdoctoral (Visiting) Researcher, Human-AI Interaction for AR, ***Reality Labs Research (RL-R), Meta*** **2022.4 – 2024.3**

- Designed and built a prototype of a conversational context-aware AI agent for smart glasses that helps users with their personal goals (e.g., nutrition, fitness).
- Conducted a one-month field study with this prototype, revealing that users value such AI agents for discovering new actions with their existing constraints (e.g., tools in one's home, scheduling constraints), and as a long-term partner for providing accountability, motivation, and means for reflection.
- Analyzed data from a large-scale three-month diary study with several hundred participants, revealing how people's real-world constraints influence the ways they act toward their personal long-term goals. Co-ran a multi-stage online interview study with personal coaches to understand how they tailor advice to their clients' daily constraints. Helped synthesize the results of these two studies into a framework used by our design team for designing AI agents for smart glasses that provide users personalized guidance on their long-term goals.
- Collaborated with AI engineers to co-design two campaigns for collecting egocentric video to train ML models running on Meta's smart glasses platform.
- Mentored two research interns and five research assistants, and trained them in data analysis, study design, participant recruitment, and data collection.
- Prepared and submitted two patent applications for novel interface designs and published three academic papers (with another under review).

UX Researcher III, ***Stadia and Immersive Stream, Google (Contractor via Adecco)*** **2021.11 – 2022.3**

- Co-ran a large survey study that identified specific pain points that small and medium-sized development studios experienced when porting their games to the Stadia cloud-gaming platform. The identified pain points provided direction for the team to better support specific under-supported game engines.
- 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 to help partners translate the research findings from several studies into business decisions and next steps.

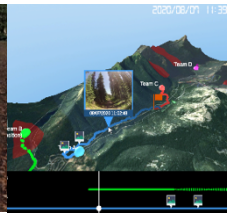
Research Intern, *Microsoft Research (MSR) Redmond* **2021.6 – 2021.10**

- Designed, prototyped, and evaluated (via 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 a publication at ACM CHI 2023 (https://doi.org/10.1145/3544548.3581085).

Research Intern, *Microsoft Research (MSR) Cambridge* **2019.7 – 2019.9**

- Built a two-way XR robotic telepresence research prototype called "VROOM" (Virtual Robot Overlay for Online Meetings), to support remote collaboration activities in an open office environment.
- Ran a mixed-methods exploratory lab study that revealed the benefits and consequences of design asymmetries in XR telepresence interfaces for remote collaboration.

Researcher & Teaching Assistant, *University of Calgary & Simon Fraser University* **2012.11 – 2021.6**



- Conducted one-on-one interviews with wilderness search and rescue (WSAR) workers and contextual inquiry of WSAR training activities to identify pain points behind why WSAR teams experience challenges with communication and information sharing in the wilderness.
- Co-designed (through participatory design with WSAR workers) a prototype for a communication system using body cameras and integrated information channels.
- Co-ran a contextual-interview study to understand the needs of 9-1-1 call takers and dispatchers from video-calling interfaces.
- Designed and prototyped novel interfaces for video communication and telepresence, including a drone video conferencing platform and telepresence robot interfaces. Conducted lab experiments and field studies to evaluate these prototypes.
- Mentored five junior researchers, including interns, undergraduate, and junior graduate students, teaching them skills in prototyping, participant recruitment, study execution, data analysis, and paper writing.
- Authored and co-authored 27 publications at top academic venues, including conferences (e.g., ACM CHI, CSCW), journals (e.g., PACMHCI, Frontiers), and book chapters.
- Led hands-on tutorials for an undergraduate HCI course. Taught students UX design principles, UI design in Microsoft Blend, and programming in C# and Visual Studio. Advised and mentored students with their team projects.

EDUCATION

Ph.D. in Computer Science (HCI), University of Calgary, Canada (GPA: 4.00/4.00) **2017.4 – 2021.6**
Supervisory Committee: *Dr. Anthony Tang (University of Toronto), Dr. Carman Neustaedter (Simon Fraser University), Dr. Ehud Sharlin, Dr. Wesley Willett;* ***Thesis****: Designing Remote Collaboration Technologies for Wilderness Search and Rescue*

M.Sc. in Computer Science (HCI), University of Calgary, Canada (GPA: 3.85/4.00) **2014.9 – 2016.12**
Thesis Advisor: *Dr. Anthony Tang;* ***Thesis:*** *Elevating Communication, Collaboration, and Shared Experiences between Peers in Mobile Video Communication using Drones*

B.Sc. in Computer Science (with First-Class Honours), University of Calgary, Canada (GPA: 3.75/4.00) **2011.9 – 2014.4**
Concentration: *Human-Computer Interaction;* ***Courses:*** *HCI, HRI, Computer Graphics, Software Engineering;* ***Extracurricular Activities:*** *RezNet, UCalgaryCares;* ***Honours Thesis:*** *Improving Collaboration in Online Group Art Therapy*

SELECTED SKILLS

UX/HCI Research:
Lab Experiments, Field Studies, Interviews, Contextual Inquiry, Survey Research, Ethnographic Methods, Observation Studies, Thematic Analysis, Statistical Analysis, Qualitative Methods, Quantitative Methods, Mixed Methods, Prototyping

Domain-Specific Topics:
Large Language Models (LLMs), Generative AI, Agent Programming, Prompt Engineering, Conversational User Interfaces, Human-AI Interaction, Mixed Reality and Spatial Computing, Game Engines, Game Programming, Object-Oriented Design

Programming languages, tools, platforms, and environments:
JavaScript, React, Node.js, Python, LangChain, Unity, C#, .NET, Visual Studio, Swift, Objective-C, PHP, SQL, HTML5, CSS, Java, C, C++

Other:
Mentoring, Project Management, Technical Communication, Teaching