

EDUCATION

University of British Columbia (UBC)

B.A. in Cognitive Systems, Cognition and the Brain

Vancouver, Canada

09/2015 – 05/2020

Graduation with First Class Standing

Senior Thesis: An Interactive Haptic Device Visualization Tool for Device Creators and Repurposers

Advisors: Prof. Ronald A. Rensink and Prof. Karon E. MacLean

RESEARCH EXPERIENCE

Visual Cognition Lab, UBC Psychology

Vancouver, Canada

Project Leader and Research Assistant with Prof. Ronald A. Rensink

09/2016 – Present

- Investigating the human perception of correlation in data visualizations with applied research methods from psychophysics. Studied feature and conjunction search and the role of attention in visual search. Led and managed a team of undergraduate researchers for nine school terms.

Topics: Information Visualization, Perceptual Processing, Psychophysics, Vision Science

Max Planck Institute for Intelligent Systems & UBC

Vancouver, Canada

Research Assistant with Prof. Karon E. MacLean and Dr. Hasti Seifi

04/2018 – 08/2019

- Designed and conducted a user study on a novel haptic device library (Haptipedia), leading to an ACM CHI '19 publication. Co-led a study on crowdsourcing incentives on Haptipedia.

Topics: Human-Computer Interaction, Haptics, Crowdsourcing

Sensory Perception & Interaction Lab, UBC Computer Science

Vancouver, Canada

Research Assistant with Prof. Karon E. MacLean and Paul Bucci

01/2018 – 04/2018

- Investigated the display and recognition of emotion in low fidelity robot designs. Constructed simple robotic behaviors using low-cost and rapid prototyping techniques with audio and graphical interfaces.

Topics: Robotics, Low-fidelity Prototyping

Laboratory for Computational Intelligence, UBC Computer Science

Vancouver, Canada

Research Assistant with Prof. Giuseppe Carenini and Emily Hindalong

09/2017 – 04/2018

- Studied the multi-attribute utility theory (MAUT) and its employment in quantitative presentations of subjective preferences in decision-making models. Designed a usability test for the ValueCharts web application.

Topics: Web-based Interactive Visualizations, Multi-Attribute Utility Theory, Decision-Making

Moritz Lab, UBC Ophthalmology & Visual Sciences

Vancouver, Canada

Laboratory Intern with Prof. Orson Moritz

04/2014

Topics: Visual Science, Neuro-Ophthalmology, Retinitis Pigmentosa, Macular Degeneration

PUBLICATIONS

Peer-Reviewed Papers

1. Seifi H., Fazlollahi, F., Oppermann, M., Sastrillo, J.A., **Ip, J.**, Agrawal, A., Park, G., Kuchenbecker, K.J., MacLean, K.E. (2019). Haptipedia: Accelerating Haptic Device Discovery to Support Interaction and Engineering Design. Conference on Human Factors in Computing Systems (CHI'19), 1-12.

Non-Refereed Papers

1. Seifi, H., **Ip, J.**, Agrawal, A., Kuchenbecker, K. J., MacLean, K. E. (2019). Toward Expert-Sourcing of a Haptic Device Repository. CHI Workshop on Crowds and Creativity, 1-4.

POSTER PRESENTATIONS AND TALKS

Poster Presentations

1. **Ip, J.**, Pertels, Y., Chai, W., Thongprasert, S. (2017, Mar. 23). Image Transitions: Visual Search in the Dynamic World. [Poster presentation]. UBC Multidisciplinary Undergraduate Research Conference. Vancouver, Canada.
2. **Ip, J.**, Tembo, T., Seifi, H., Fazlollahi, F., Oppermann, M., Sastrillo, J. A., Agrawal, A., Park, G., Kuchenbecker, K. J., MacLean, K. M. (2019, May 1). Haptipedia: A Haptic Device Library to Support Interaction and Engineering Design. [Poster presentation]. DFP Design Showcase. Vancouver, Canada.

Talks

1. **Ip, J.**, Pertels, Y., Chai, W., Thongprasert, S. (2017, Apr. 1). Image Transitions: Visual Search in the Dynamic World. [Oral presentation]. UBC Psychology Undergraduate Research Conference. Vancouver, Canada.

RESEARCH GRANTS

Undergraduate Student Research Award, NSERC 2019

TEACHING EXPERIENCE

Directed Studies Supervisor at UBC Vancouver, Canada
Research in Cognitive Systems (COGS 402) 01/2020 – 04/2020

- Supervised a senior thesis project in vision science. Mentored and monitored student progress on experimental design, coding, analysis, and paper writing.

Workshop Instructor at UBC Visual Cognition Lab Vancouver, Canada
Workshop Series in Psychophysics and Data Analysis Methods 03/2019

Undergraduate Teaching Assistant at UBC Vancouver, Canada
Research Methods in Cognitive Systems (COGS 402) 09/2018 – 12/2018

- Graded weekly written assignments, quizzes, in-class activities, and final research reports while providing academic support for 39 students through email, weekly office hours, and exam sessions.

WORK EXPERIENCE

Advesa Digital Solutions Inc. Burnaby, Canada
Technical Writer 06/2020 – Present

Writing REST API and GUI documentation for e-commerce software.

Technology: Confluence, Postman, Swagger, JIRA

Emerging Media Lab, UBC Vancouver, Canada
Academic Assistant 11/2017 – 04/2018

Created and facilitated Virtual Reality and Brain-Computer Interface demos and workshops.

Technology: Virtual Reality (HTC Vive™), Brain-Computer Interface (Muse™ Headband)

VOLUNTEER EXPERIENCE

Student Volunteer at ACM SIGGRAPH 08/2018

Volunteered as a docent for the CAVE project by the NYU Future Reality Lab.

Course Collaborator for Stanford Scholar 05/2016 – 08/2016

Helped produce and edit content for crowdsourced research talks.

Communications Director at Social Diversity for Children Foundation 01/2014 – 07/2016

Served on the executive team of a charity that empowers children with disabilities.

TECHNICAL SKILLS

Languages: R, Java, C/C++, JavaScript, HTML/CSS, MATLAB

Toolkit & Environments: Excel, Git, Tableau, IntelliJ, MAXQDA, L^AT_EX, Arduino, Unity3D, Blender (3D Modeling), Photoshop

Research: Quantitative Analysis, Psychophysics, Diary Studies, User Interviews, Qualitative & Thematic Analysis, Data Collection (human subjects)