

## EDUCATION

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### 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

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### 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 a 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

01/2018 – 04/2018

- Explored low-DOF robot design and construction to investigate the display and recognition of emotion. Used low-cost and rapid prototyping techniques to construct simple robotic behaviors using graphical and audio interfaces.

*Topics:* Robotics, Low-fidelity Prototyping

### Laboratory for Computational Intelligence, UBC Computer Science

Vancouver, Canada

Research Assistant with Prof. Giuseppe Carenini

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

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### 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. Haptipedia: Accelerating Haptic Device Discovery to Support Interaction Engineering Design. *In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI), Glasgow, Scotland, May 2019.*

### 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. *In Proceedings of ACM Conference (CHI'19). ACM, Glasgow, Scotland, England, 4 pages.*

## POSTER PRESENTATIONS AND TALKS

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### Poster Presentations

1. **Ip, J.**, Pertels, Y., Chai, W., Thongprasert, S. (2017). "Image Transitions: Visual Search in the Dynamic World." 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). "Haptipedia: A Haptic Device Library to Support Interaction and Engineering Design." DFP Design Showcase 2019. Vancouver, Canada.

### Talks

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

## RESEARCH GRANTS

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**Undergraduate Student Research Award, NSERC** 2019

## TEACHING EXPERIENCE

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**Directed Studies Supervisor** at University of British Columbia Spring 2020  
*Research in Cognitive Systems (COGS 402)*

**Workshop Instructor** at UBC Visual Cognition Lab Spring 2019  
*Workshop Series on Psychophysics Methods and Data Analysis*

**Teaching Assistant** at University of British Columbia Fall 2018  
*Research Methods in Cognitive Systems (COGS 303)*

## WORK EXPERIENCE

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**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

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**Student Volunteer** at ACM SIGGRAPH 08/2018  
*Volunteered as a docent for the CAVE project by the NYU Future Reality Lab.*

**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.*

**Course Collaborator** at Stanford Scholar 05/2016 – 08/2016  
*Helped produce and edit content for crowdsourced research talks.*

## TECHNICAL SKILLS

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

**Toolkit & Environments:** Excel, Git, Tableau, IntelliJ, MAXQDA, L<sup>A</sup>T<sub>E</sub>X, Arduino, Unity3D, Blender (3D Modeling), Photoshop

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