

## Education

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### Brown University

Ph.D., Cognitive Science (GPA: 4.0/4.0)

Advisors: Dr. William C. Heindel, Dr. Elena K. Festa

Providence, RI, USA

08/2021 – 05/2026

### University of British Columbia (UBC)

B.A., Cognitive Systems (Class 1 Standing)

Advisors: Dr. Ronald A. Rensink, Dr. Karon E. MacLean

Vancouver, Canada

Graduation: 05/2020

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

### In Preparation

1. **Ip, J.**, Heindel, W.C., & Festa, E.K. (2024). Differential EEG Markers of Selective Attention and Feature Binding in Visual Search.

## Conference Presentations

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1. **Ip, J.**, Heindel, W.C., & Festa, E.K. (2024). Differential EEG Markers of Selective Attention and Feature Binding in Visual Search [Poster Presentation]. Vision Sciences Society Symposium. St. Pete Beach, Florida.
2. **Ip, J.**, Heindel, W.C., & Festa, E.K. (2023). Age-Related Effects of Audiovisual Semantic Congruency on Living and Nonliving Object Perception [Poster Presentation]. Cognitive Neuroscience Society (CNS) 30th Annual Meeting. San Francisco, California.
3. **Ip, J.**, Chin, N., & Rensink, R. (2021). Correlation Perception is Invariant to Dot Size [Poster Presentation]. Vision Sciences Society Symposium. Virtual.
4. Seifi, H., Fazlollahi, F., Oppermann, M., Sastrillo, J. A., **Ip, J.**, Agrawal, A., Tembo, T., Park, G., Kuchenbecker, K. J., & MacLean, K. M. (2019). Haptipedia: A Haptic Device Library to Support Interaction and Engineering Design [Poster Presentation]. DFP Design Showcase. Vancouver, Canada.
5. **Ip, J.**, Pertels, Y., Chai, W., & Thongprasert, S. (2017). Image Transitions: Visual Search in the Dynamic World [Poster Presentation]. UBC Multidisciplinary Undergraduate Research Conference. Vancouver, Canada.
6. **Ip, J.**, Pertels, Y., Chai, W., & Thongprasert, S. (2017). Image Transitions: Visual Search in the Dynamic World [Talk]. UBC Psychology Undergraduate Research Conference. Vancouver, Canada.

## Selected Awards

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Manning Graduate Fellowship IV, Brown University	2022–2023
Conference Travel Fund, Brown University	2023, 2024
Elsevier/Vision Research Virtual Travel Award, Vision Sciences Society	2021
Undergraduate Student Research Award in Computer Science, NSERC (\$4,500)	2019

## Research Experience

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### **Aging and Cognition Lab, Brown CLPS**

PhD Researcher with Dr. William Heindel and Dr. Elena Festa

Providence, RI, USA

05/2022 – Present

*Topics:* Aging Neuroscience, Perception, Cognition

### **Perception, Action, and Cognition Lab, Brown CLPS**

PhD Researcher with Dr. Joo-Hyun Song

Providence, RI, USA

08/2021 – 05/2022

*Topics:* Perception, Action, Cognition

### **Visual Cognition Lab, UBC Psychology**

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

Vancouver, Canada

09/2016 – 04/2021

- Investigated the influence of different visual attributes on the perception of correlation in data visualizations using applied psychophysics. Investigated the influence of spatial transformations on performance in feature and conjunctive visual search. Led and managed a team of undergraduate researchers for nine academic terms.

*Topics:* Information Visualization, Vision Science, Perception, Psychophysics

### **Max Planck Institute for Intelligent Systems & UBC**

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

Vancouver, Canada

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**

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

Vancouver, Canada

01/2018 – 04/2018

- Investigated the display and recognition of emotion in low fidelity robot designs. Simulated simple affective behavior through audio and graphical interfaces created with low-cost and rapid prototyping techniques.

*Topics:* Robotics, Low-fidelity Prototyping

### **Laboratory for Computational Intelligence, UBC Computer Science**

Research Assistant with Dr. Giuseppe Carenini and Emily Hindalong

Vancouver, Canada

09/2017 – 04/2018

- Studied multi-attribute utility theory (MAUT) and its employment in quantitative presentations of subjective preferences in decision-making models.

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

### **Moritz Lab, UBC Ophthalmology & Visual Sciences**

Laboratory Intern with Dr. Orson Moritz

Vancouver, Canada

04/2014

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

## Teaching Experience

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### **Graduate Teaching Assistant, Brown University**

Providence, RI, USA

CLPS 1900: Research Methods and Design

01/2024 – 05/2024

CLPS 0010: Mind, Brain and Behavior (Head TA)

09/2023 – 12/2023

CLPS 1420: Cognitive Neuropsychology

01/2023 – 05/2023

CLPS 0010: Mind, Brain and Behavior

09/2022 – 12/2022

Led weekly sections, hosted weekly office hours, graded research papers and presentations, and managed teams of undergraduate and graduate TAs.

### **Directed Studies Supervisor, UBC**

Vancouver, Canada

COGS 402: Research in Cognitive Systems

01/2020 – 04/2020

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

<b>Workshop Instructor</b> , UBC Visual Cognition Lab	Vancouver, Canada
Psychophysics and Data Analysis Methods	03/2019
Taught a four-week long workshop on psychophysics methods.	

<b>Undergraduate Teaching Assistant</b> , UBC	Vancouver, Canada
COGS 303: Research Methods in Cognitive Systems	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 review sessions.	

## Work Experience

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<b>Advesa Digital Solutions Inc.</b>	Burnaby, Canada
Technical Writer	06/2020 – 06/2021
Wrote REST API and GUI documentation for e-commerce software.	
<i>Technology:</i> Confluence, Postman, Swagger, JIRA	

<b>UBC Emerging Media Lab</b>	Vancouver, Canada
Academic Assistant	11/2017 – 04/2018
Created and facilitated Virtual Reality and Brain-Computer Interface demos and workshops.	
<i>Technology:</i> Virtual Reality (HTC Vive™), Brain-Computer Interface (Muse™ Headband)	

## Technical Skills

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

**Software:** PsychToolbox, EEGLAB, ERPLAB, Git, L<sup>A</sup>T<sub>E</sub>X, Arduino, Unity3D, Blender (3D Modeling), Adobe Illustrator, jamovi, MAXQDA

**Research Methodology:** Scalp Electroencephalography (EEG), Event-Related Potential (ERP) Analysis, Event-Related Spectral Perturbation (ERSP) Analysis, Psychophysics, Eye Tracking, Visuomotor Tracking and Analysis, User Interviews, Usability Testing, Thematic Analysis

## Service

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<b>Computational Cognitive Neuroscience Journal Club</b> , Organizer	<i>Ongoing</i>
<b>CLPS Twitter Manager</b> , IT/Communications Committee	10/2022 – 07/2023
<b>Student Docent (NYU Future Reality Lab)</b> , ACM SIGGRAPH	08/2018
<b>Course Collaborator</b> , Stanford Scholar	05/2016 – 08/2016
<b>Communications Director</b> , Social Diversity for Children Foundation	01/2014 – 07/2016

## Professional Memberships

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**Cognitive Neuroscience Society**  
**Vision Sciences Society**