Jessica Ip

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Education

Brown University — Providence, RI
Ph.D., Cognitive Science (GPA: 4.0/4.0) — 2021 – 2026
Advisors: Dr. William C. Heindel, Dr. Elena K. Festa

University of British Columbia (UBC) — Vancouver, BC
B.A., Cognitive Systems (Class 1 Standing) — Graduation: 2020
Advisors: Dr. Ronald A. Rensink, Dr. Karon E. MacLean

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. *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. (In prep). Differential EEG Markers of Selective Attention and Feature Binding in Visual Search.

Conference Presentations and Abstracts

1. **Ip, J.**, Heindel, W.C., & Festa, E.K. (2024). Differential Attentional Costs of Encoding Single- vs. Multiple-Feature Objects in Visual Working Memory: An ERP Study [Conference Abstract]. Object Perception, Visual Attention, and Visual Memory Conference. New York City, New York.

2. **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.

3. **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.

4. **Ip, J.**, Chin, N., & Rensink, R. (2021). Correlation Perception is Invariant to Dot Size [Poster Presentation]. Vision Sciences Society Symposium. Virtual.

5. 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.

6. **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.

7. **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

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

Department of Cognitive and Psychological Sciences, Brown University Providence, RI
Ph.D. Student/Candidate 08/2021 – Present

Topics: Cognitive Neuroscience, Perception, Cognition, Aging

Visual Cognition Lab, UBC Psychology Vancouver, BC
Project Leader and Research Assistant with Dr. Ronald A. Rensink 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 Vancouver, BC
Research Assistant with Dr. 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, BC
Research Assistant with Dr. Karon E. MacLean and Paul Bucci 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 Vancouver, BC
Research Assistant with Dr. Giuseppe Carenini and Emily Hindalong 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 sVancouver, BC
Laboratory Intern with Dr. Orson Moritz 04/2014

- Studied retinitis pigmentosa and macular degeneration in Xenopus laevis photoreceptors.

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

Teaching Experience

Graduate Teaching Assistant, Brown University Providence, RI

CLPS 1702: Psychological Assessment 09/2024 – 12/2024
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, BC

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.

Workshop Instructor, UBC Visual Cognition Lab Vancouver, BC

Psychophysics and Data Analysis Methods 03/2019

Designed and taught four workshop sessions on psychophysics methods.

Undergraduate Teaching Assistant, UBC Vancouver, BC

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

Advesa Digital Solutions Inc. Burnaby, BC

Technical Writer 06/2020 –06/2021

Wrote REST API and GUI documentation for e-commerce software.
Technology: Confluence, Postman, Swagger, JIRA

UBC Emerging Media Lab Vancouver, BC

Academic Assistant 11/2017 – 04/2018

Created and facilitated Virtual Reality and Brain-Computer Interface demos and workshops.
Technology: Virtual Reality (HTC ViveTM), Brain-Computer Interface (MuseTM Headband)

Technical Skills

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

Software: PsychToolbox, EEGLAB, ERPLAB, E-Prime, Git, LaTeX, Arduino, Unity3D, Blender (3D Modeling), Adobe Illustrator, MAXQDA

Quantitative Research Methodology: Scalp Electroencephalography (EEG), Event-Related Potential (ERP) Analysis, Event-Related Spectral Perturbation (ERSP) Analysis, Psychophysics, Eye Tracking, Visuomotor Tracking and Analysis

Quantitative Research Methodology: User Interviews, Usability Testing, User Interface Wireframing and Prototyping, Thematic Analysis

Service

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

Professional Memberships

Cognitive Neuroscience Society
Vision Sciences Society