Jessica Ip

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Education

Brown University — Providence, RI, USA
Ph.D., Cognitive Science — 08/2021 – 05/2026
Advisors: Dr. William C. Heindel, Dr. Elena K. Festa

University of British Columbia (UBC) — Vancouver, Canada
B.A., Cognitive Systems (Class 1 Standing) — Graduation: 05/2020
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.

In Preparation

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

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.

Conference Presentations & Abstracts

1. **Ip, J.**, Heindel, W.C., & Festa, E.K. (2024). Differential EEG Markers of Selective Attention and Feature Binding in Visual Search [Conference Abstract]. 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 [Conference Poster]. 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 [Conference Poster]. 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 [Conference Poster]. DFP Design Showcase. Vancouver, Canada.
5. **Ip, J.**, Pertels, Y., Chai, W., & Thongprasert, S. (2017). Image Transitions: Visual Search in the Dynamic World [Conference Poster]. 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 [Conference 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

Aging and Cognition Lab, Brown CLPS — Providence, RI, USA
PhD Researcher with Dr. William Heindel and Dr. Elena Festa — 05/2022 – Present
Topics: Aging Neuroscience, Perception, Cognition

Perception, Action, and Cognition Lab, Brown CLPS — Providence, RI, USA
PhD Researcher with Dr. Joo-Hyun Song — 08/2021 – 05/2022
Topics: Perception, Action, Cognition

Visual Cognition Lab, UBC Psychology — Vancouver, Canada
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, Canada
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, Canada
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, Canada
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 — Vancouver, Canada
Laboratory Intern with Dr. Orson Moritz — 04/2014
Topics: Visual Science, Neuro-Ophthalmology, Retinitis Pigmentosa, Macular Degeneration

Teaching Experience

Graduate Teaching Assistant at Brown University — Providence, RI, USA
Research Methods and Design (CLPS 1900) — 01/2024 – 05/2024

Head Graduate Teaching Assistant at Brown University — Providence, RI, USA
Mind, Brain and Behavior: An Interdisciplinary Approach (CLPS 0010) — 09/2023 – 12/2023

Graduate Teaching Assistant at Brown University — Providence, RI, USA
Cognitive Neuropsychology (CLPS 1420) — 01/2023 – 05/2023

Graduate Teaching Assistant at Brown University — Providence, RI, USA
Mind, Brain and Behavior: An Interdisciplinary Approach (CLPS 0010) — 09/2022 – 12/2022

- Taught a weekly section of 18 undergraduate students and graded research papers.

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, data 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 303) — 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, Canada
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, Canada
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, Git, LaTeX, IntelliJ, Arduino, Unity3D, Blender (3D Modeling), Adobe Illustrator, jamovi, JASP, SPSS, MAXQDA

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