Simon Ho

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SUMMARY

- Experimental psychologist trained in research design, data collection, data analysis, and visualization.
- Experience with identifying problems and designing experiments to find solutions.
- Team-focused and collaborative researcher, with multiple departmental and international collaborations.
- Knowledgeable in a variety of quantitative and qualitative analytical techniques, ranging from inferential statistics to modern deep learning tools.
- Clearly communicate complex ideas to a diverse audience, through reports and presentations.
- Independent and self-motivated learner, with voluntary completion of multiple online and university courses.

STATISTICAL SKILLS

- Machine learning
- Experimental design
- A/B testing
- Exploratory data analysis
- Qualitative analysis (surveys, interviews)
- Psychometrics and measurement theory

- Regression
- Analysis of variance
- Factor analysis
- Item Response Theory
- Multivariate analysis
- Structural equation modelling

TECHNICAL SKILLS

- Data analysis and visualization (R, SPSS, Excel)
- Programming (Python, Git, Java, MATLAB)

- Databases (SQL)
- Eye-tracking

WORK EXPERIENCE

Data Analyst / Scholarship of Teaching and Learning Specialist   2016 – present
UBC Centre for Teaching, Learning and Technology

- Analyzed user data from a large online climate science course, with over 6000 students, to determine whether personalized assignments improved student retention and engagement with the course material.
- Employed surveys and interviews in a 200-student Linguistics course to study the impact of a novel speech visualization technique on student engagement and learning.
- Designed an experiment to assess the impact of a peer interaction tool on student engagement, with the goal of improving the student learning experience and to foster communication between peers.
- Explored and analyzed survey data from an international, multi-institution study consisting of 6 different universities to uncover similarities in teaching practices and identify areas of improvement.
- Employed statistical tools such as factor analysis to streamline a survey, improving the statistical properties of the questionnaire for future versions of the study.

Data Analysis Consultant   2015
Self-employed

- Worked with a Vancouver-based company to conduct an in-depth analysis of a consumer survey with a quick 2-week turnaround.
  - The analysis identified consumer spending behaviour, and the results were then used to guide future business operations and adjust product pricing.

RESEARCH EXPERIENCE

Graduate Student Researcher   2013 – Present

- Managed and mentored a team of 14 undergraduate research assistants and directed studies students across concurrent research projects; from conception, through analysis, to communicating the final result.
- Integrated knowledge and techniques from multiple disciplines (psychology, computer science, and engineering) to identify, and employ, the correct approach for a given research problem.
- Conducted pilot studies to determine the usability of experimental paradigms.
- Programmed a suite of computer-based tasks to collect data across 9 different experiments, resulting in reduced downtime between projects and faster project completion.
- Created analysis tools, resulting in more efficient methods for visualizing, analyzing, and reporting of data.
- Developed dashboards for data coding and visualization. Increased coding speed by 90% over previous methods.
- Presented and published work in academic journals and research conferences.

Research Projects

- Developed a novel smartphone-based methodology, as part of an international collaboration, to study walking in natural environments, improving upon current methods for assessing natural walking behavior.
- Conducted an experiment on cognitive factors that affect the ability to read digital maps, with the goal of improving the design of digital maps and to make them easier to learn.
- Employed advanced machine learning techniques to classify attentional states from brainwave data, with the goal of improving the detection of attention lapses in real-time.

Analysis Team Member   2016
Visual Cognition Lab

- Collaborated with Computer Scientists and Psychologists to develop a data analysis pipeline, using Python and R, to automate the aggregation and analysis of research data.

Research Assistant   2011 – 2015
UBC Department of Psychology

- Helped supervising graduate student achieve faster turnaround with participant recruitment and data collection.
- Wrote MATLAB tutorials on experimental design and analysis for a lab website, with the goal of creating a shared resource for current and future graduate students.

EDUCATION

University of British Columbia
PhD in Psychology (Cognitive Science), Minor in Quantitative Methods   2015 – Present
MA in Psychology (Cognitive Science)   2013 – 2015
BA (Honors) in Psychology   2009 – 2013

Select honors and awards:

- Kitty Heller Foundation Fellowship (PhD - 4 years)
- Canadian Psychological Association Award for Academic Excellence, Best Undergraduate Honours Thesis
- Outstanding Research Talk, UBC Psychology Undergraduate Research Conference

Select publications:

- Ho, S., Gooderham, G. K., & Handy, T. C. (2018). *Self-reported free-living physical activity and executive control in young adults*. PLoS ONE.
- Ho, S., Foulsham, T., & Kingstone, A. (2015). *Speaking and Listening with the Eyes: Gaze Signaling during Dyadic Interactions*. PLoS ONE.