

BRITTNEY HARTLE

Postdoctoral Fellow

I am a research scientist passionate about data analysis and visualization interested in applying the extensive skills I have gained in academia and applied research to lead complex data projects. My PhD in Experimental Psychology, knowledge of data analytics, and project management experience make me well suited for your Data Analyst position.

Research Experience

Postdoctoral Fellow

York University & University of Waterloo

09/2022 – Present

Toronto, ON

- ◆ Collaborative research project evaluating the effectiveness of medium fidelity flight simulators to generate aviation-relevant visual illusions in pilot training
- ◆ Designed, analyzed, and interpreted big data from simulator recordings and Qualtrics questionnaires to predict performance based on demographics and pilot experience
- ◆ Modelled flight data as performance statistics and visualized flight trajectories as interactive plots in Rmarkdown reports

Research Internship

Facebook Reality Labs

12/2019 – 03/2020

Redmond, WA

- ◆ 4-month internship measuring the perceptibility of visual distortions in augmented reality display system prototypes in natural viewing environments
- ◆ Collaborated with cross-functional teams, including engineers, optical scientists, and industry partners to conceptualize, design, and execute confidential research
- ◆ Communicated effectively with technical professionals and industry partners during project reviews, lead discussion during meetings, and directed research presentations
- ◆ Used Python to develop a perceptual experiment that integrated optical eye-tracking hardware to analyze gaze patterns and identify areas of interest

Research Associate

York University & Defence Research & Development Canada

2015 – 2018

Toronto, ON

- ◆ 3-year collaborative research project between York University, University of Waterloo, and Defence Research and Development Canada assessing requirements for stereopsis and binocular vision in military aviation
- ◆ Collaborated with academic and defence research scientists to conceptualize, design, and execute the project with strict ethics, operating procedures, and regulatory practices when conducting research with military pilots
- ◆ Analyzed and interpreted data using psychophysical and linear mixed modelling using R and published findings into two first author journal publications

Education

Ph.D. in Psychology (Brain, Behaviour & Cognitive Science)

York University

09/2016 – 08/2022

Toronto, ON

- ◆ Developed research questions investigating how people perceive depth in VR environments by managing and conducting in-person research over three studies
- ◆ Used Unity and Python to develop perceptual in 3D head-mounted displays
- ◆ Data analysis using advanced statistical techniques, such as psychophysical modelling, signal processing, multiple linear regression, mixed models, logistic regression, Bayesian statistics, and bootstrapping using R

Relevant Courses: Univariate Analysis: Regression, Psychology of Data Visualization, Computational Neuroscience, Visual Psychophysics, Human-Computer Interactions

M.A. in Psychology (Brain, Behaviour & Cognitive Science)

York University

09/2014 – 10/2016

Toronto, ON

- ◆ 2-year research project funded by NSERC CREATE managing and conducting in-person research on how depth information is perceived in 3D illusory surfaces
- ◆ Developed five perceptual experiments independently and collaboratively using Matlab

Technical Skills

Programming Languages

Python: PsychoPy, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn

R: dplyr, tibble, tidyr, nlme, psyphy, boot, ggplot2, Rmarkdown

SQL: Data Management & Wrangling

Matlab: Psychtoolbox, OpenGL, Image Processing, Computer Vision

Statistical Analyses

Multiple Linear Regression, Generalized Linear Models, Mixed Models, Logistic Regression, Bootstrapping, Decision Trees, Clustering

Other Tools & Software

Data Visualization: PowerBi, Tableau

3D Modelling: Blender & Unity

Version Control: GitHub

General: Microsoft Office

General Skills

Communication

Excellent verbal presentation, writing, and interpersonal skills

- ◆ First author of [six peer-reviewed](#) papers published in high impact academic journals
- ◆ Presented at multiple international conferences and seminars
- ◆ Extensive experience recruiting, engaging with, and maintaining effective working relationships with participants
- ◆ Helped colleagues solve complex technical problems by sharing insight and skills

Mentoring

Wide mentoring and teaching experience

- ◆ Mentored four undergraduates on how to design and implement experiments, summarize and analyze data, and write reports
- ◆ Teaching assistantships at York University (2014-2021)
- ◆ Informal mentorship aiding colleagues with coding, software, writing, and best practices in science

Independence

Self-motivated and able to plan, adapt, and thrive in novel situations

- ◆ Used own initiative to conceptualize and conduct vision experiments during my graduate studies to solve difficult scientific problems
- ◆ Learned skills including the operation of display technology, optical equipment, eye-tracking software, and statistical techniques with minimal supervision
- ◆ Proactively conducts self-supervised review of background literature to prepare for novel research projects

Awards & Certificates

2023: Machine Learning Specialization by Stanford on Coursera

2023: IBM Data Science Professional Certificate on Coursera

2022: Nominated for York University Dissertation Prize

2019: CCDP Certificate of Teaching Excellence Award

2017: FoVea Travel & Networking Award | National Science Foundation

2014-2019: Over \$80,000 of OGS & NSERC Scholarships