Madison Ann Elliott

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About me

I am a 5th year Cognitive Science Ph.D. student at the University of British Columbia, with over 6 years of professional experience in usability engineering, data visualization, and design. I am currently researching human visual attention, perception, and graph drawing algorithms. I apply basic research findings from cognitive science to help people solve real-world design problems, and understand or evaluate data visualization designs.

Relevant Experience

User Experience Research Intern, Google (x 2) | Palo Alto, CA (June 2019-August 2019; May 2020-present)

- Designing, conducting, analyzing, and presenting both quantitative and qualitative research projects for Google Health. Engaging diverse stakeholders to promote UX research buy-in within and outside of Google.

Usability Engineer Intern, Northrop Grumman | Woodlawn, MD (May 2014 – September 2014)

- Supporting contracts with the Social Security Administration (SSA), usability research, design, development, and testing of a public-facing web-application for replacement social security cards and an intranet website for the SSA Office of Budget, Finance, Quality, and Management. Rapid prototyping in Axure and HTML/CSS.

Usability Lead & Data Engineer, Mana Financial Life Design | Marina del Rey, CA (August 2018-present)

- Designed and developed Mana FLD website. Applying my educational knowledge and technical skills to help drive client strategies, create data dashboards and other web tools for personal finance.

Graduate Researcher, UBC Visual Cognition Lab | Vancouver, BC (September 2014-present)

- Investigating the limits and nature of attentional selection of ensembles of items or features in complex scenes. Supervising 3-4 undergraduate research assistants each semester, managing the lab coding team which employs between 4-20 undergraduates per semester, overseeing and contributing to experiment software development and usability. Skills used include: statistics in R, data wrangling in Python, software development in Java, HTML, CSS, Javascript, Excel, and Tableau.

Graduate Researcher, UBC InfoVis Group | Vancouver, BC (September 2015-present)

- Researching novel algorithms for graph drawing. Introducing low stretch quasi-trees to the visualization community for use in de-cluttering dense, "hairball" graph visualizations. Developing software for proof of concept tools, performing applied data research using approaches from theoretical mathematics.

Education

PhD in Cognitive Science, The University of British Columbia in Vancouver BC, *expected graduation May 2021*
MA in Cognitive Science, The University of British Columbia in Vancouver BC, *May 2016*
MA in Clinical Psychology, Towson University in Towson, MD, *May 2013*
BA in Psychology, Roanoke College in Salem, VA, *May 2011*
AA in Computer Science, Community College of Baltimore County in Baltimore MD, *May 2014*

Selected Publications ** indicates shared first-authorship*

Elliott, M. A., Nothelfer, C., Xiong, C., Szafir, D. (in prep). *Vision Methods for Visualization Research*. IEEE Transactions on Visualization and Computer Graphics, 2020.

Crisan, A.*, & **Elliott, M. A.*** (2018). How to Evaluate an Evaluation Study? Comparing and Contrasting Practices in Vis with Those of Other Disciplines. Proceedings of the 7th BELIV'18 Workshop: Beyond Time and Errors: Novel Evaluation Methods for Information Visualization.

Park, J. L., Silveira, **M., Elliott, M. A.**, Savalei, V. & Johnston, C. (2018). Confirmatory Factor Analysis of the Structure of Adult ADHD Symptoms. Psychopathology and Behavioral Assessment, 40(4): 573-585.

Elliott, M. A. (2016). Interference in the perception of correlation in two population scatterplots (Master's thesis, University of British Columbia).

Elliott, M. A. & Parente, F. (2014). Efficacy of Memory Rehabilitation Therapy: A Meta- Analysis of TBI and Stroke Cognitive Rehabilitation Literature. Brain Injury, 28(12): 1610-1616.

Selected Awards

Canadian Psychology Association Best Thesis Award (UBC), 2016
UBC 4-Year Doctoral Research Fellowship, 2017
Northrup Grumman Intern Summer Challenge Winner, 2014