

Matthew Martin

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Highlight of Qualifications

- Experience adapting psychological principles of vision and attention to industry settings as demonstrated with work related to banknote design at the Bank of Canada
- Excellent research skills gained in cognitive laboratory settings for paid research assistant positions and as an honors thesis / master's thesis student
- Knowledgeable in Python, MATLAB, and Java programming languages gained through several courses in computer science and cognitive science; applied in research settings as a research assistant and as part of the completion of an honors thesis / master's thesis
- Command of statistical theory and software packages such as SPSS, Excel, and R gained through several senior-level psychology courses related to conducting quantitative research and analysis, applied in research settings and taught as a teaching assistant
- Proficient in Microsoft Word, Excel, and PowerPoint gained over a year of working in the public sector as a co-op student and through numerous academic reports and projects

Education and Awards

Master of Arts Psychology

2015 – Present

Concordia University, Montreal, Quebec

- Anticipated graduation date: September 2017
- Concordia Merit Scholarship (2016-2017)
- Natural Science and Engineering Research Council of Canada (NSERC) - Canada Graduate Scholarships - Master's Program Fellow (2015-2016)
- Research focus: Visual perception of statistical properties, visual attention
- Supervisor: Dr. Aaron Johnson (Concordia Vision Laboratory)

Bachelor of Cognitive Science Honors

2009 – 2015

Cognition and Psychology (Co-op Option)

Carleton University, Ottawa, Ontario

- Graduated with High Distinction; CGPA: 11.8 / 12 (A+), April 2015
- Received University Medal in Cognitive Science (for graduate with highest standing)
- Deans' Honor List, Carleton University, 2010, 2011, 2012, 2015
- NSERC Undergraduate Student Research Award, Carleton University, Summer 2014
- Honors thesis title: Battling Aliens for Science: New Methods for Creating and Evaluating Models of Expert Cognition in Chaotic Simulated Environments
- Supervisor: Dr. Robert West (Carleton Cognitive Modeling Lab)

Key Research Experience

Master's Thesis Student: Visual Attention and Summary Statistics
Concordia University, Montreal, QC

2015 – Present

- Conducting research related to visual attention and psychophysics, including designing experimental procedures, collecting and analyzing participant data using MATLAB and R for the publication of a master's thesis and related journal articles
- Designed and implemented a marketing study incorporating eye-tracking techniques to examine the relationship between brand familiarity, product salience, and eye movements so as to determine top-down and bottom-up effects of attention on consumer behaviour

Teaching Assistant: Statistical Analysis II (Psychology)
Concordia University, Montreal, QC

Winter 2017

- Prepared and delivered weekly guided tutorials on statistical methodologies such as t-tests, multiple regression, ANOVA and their implementation using SPSS to help students better understand the theory and performance of such methods
- Administered bi-weekly assignments and final lab test, including marking, invigilating and providing feedback so as to encourage learning of the materials

Honors Thesis Student: Socio-technical GOMS Modeling
Carleton Cognitive Modeling Lab, Carleton University, Ottawa, ON

2013 – 2015

- Created a model of expert video game play using video annotation techniques and in-house model building software which accounted for the majority of human data collected and can be evaluated by the community of practice
- Designed and programmed a graphical user interface using Python and Jython languages to assist in the creation of macro-cognitive (social-level) computational models of expertise integrated within the micro-cognitive ACT-R architecture

Co-op Student Research Position
Currency Development Team, Bank of Canada, Ottawa, ON

Fall 2013

- Conducted broad literature review of cognitive science disciplines relevant to anti-counterfeiting measures and banknote security, resulting in the production of a large internal report documenting psychological principles as they apply to banknote security and novel techniques that can be used to assess the effectiveness of banknote security features

Publications and Talks

- Martin, M., & Johnson, A. P. (2016, June). *Multiple feature dimensions compete for visual attention: Testing Boolean map theory using a summary statistics paradigm*. Talk presented at the meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science, Ottawa, ON.
- MacDougall, W. K., **Martin, M.**, Nagy, N., & West, R. L. (2015). A Method for Building Models of Expert Cognition in Naturalistic Environments. *Proceedings of the 13th International Conference on Cognitive Modeling*. Available from www.iccm2015.org/proceedings/papers/0004/paper0004.pdf
- Martin, M. (2014). *SGOMS_GUI: An Interface for Developing SGOMS Models in ACT-R* [Software]. Available from https://github.com/mattmartin256/SGOMS_GUI