**Daniel Saunders**

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SKILLS

* **Expert in languages**: Python (NumPy, SciPy, matplotlib, pandas), MATLAB, SQL. Training and experience in C/C++, Perl, Java, JavaScript, PHP, LaTeX, Visual Basic.
* **Statistical software:** SPSS, Stata, R.
* **Software engineering methodology** including Git, Subversion, unit testing.
* **Experimental design, hypothesis testing, data exploration.**
* **Human cognitive models and vision science.**

EXPERIENCE

**Cognition Researcher May 2014 – Present**

CIMeC, University of Trento Rovereto, Italy

* Processed 300 hours of eyetracking data, and integrated with fMRI data. Created a new metric for divergence in gaze based on *k*-means clustering and mixture of Gaussians.
* Designed and analyzed behavioural and eyetracking experiments, including creating an innovative dual simultaneous eyetracker apparatus.
* Supervised two junior colleagues throughout yearlong projects.

**Research Consultant July 2015 – Oct 2015**

Rambus Labs Sunnyvale, CA (remote)

* Built a behavioural model for a new product prototype, which proved its feasibility to move to the next stage of development.

**Vision and Rehabilitation Researcher May 2011 – Apr 2014**

Schepens Eye Research Institute Boston, MA

* Built a Web-database architecture to present videos to Amazon Mechanical Turk workers and collect 6400 natural-language responses.
* Developed text scoring algorithm that performed 16% better than established algorithms on our dataset. Successfully patented, US20150216414.
* Presented at conferences such as Vision Sciences Society and the European Conference on Eye Movements.

EDUCATION

**Online coursework (with certificates)**

* Machine Learning by Stanford University on Coursera.
* Introduction to Big Data by UC San Diego on Coursera.

**PhD (2011), Psychology**

Queen’s University, Kingston, Ontario

* Applied principal component analysis and Fourier analysis to 5 GB of human gait data.
* Developed and validated an online battery of behavioural tests.
* Taught advanced statistics tutorials for undergraduates.
* Supervised student projects through to publications.

**Master’s (2006), Psychology**

Queen’s University, Kingston, Ontario

* Used optic-flow algorithms to reduce time to code pigeon behaviour videos from 900 hours (hand-coding) to 20.

**Bachelor of Math, Honours Computer Science – Cognitive Science Option (2004)**

University of Waterloo, Waterloo, Ontario

* Two co-op work terms in software engineering at Amazon.com. Learned about the order processing engine for optimizing shipping margins, and built and tested a new feature.
* Co-op work terms at Toronto Hydro, Bell Canada, and Shell Canada.

SELECTED PUBLICATIONS

* Ware, E., **Saunders, D. R.**, & Troje, N. F. (2015). The influence of motion quality on responses towards video playback stimuli. Biology Open, *4*(7), 803-811.
* **Saunders, D. R.**, Bex, P.J., & Woods, R. L. (2013). Crowdsourcing a normative natural language dataset: A comparison of Mechanical Turk and in-lab data collection. *Journal of Medical Internet Research*, 15(5), e100.

ADDITIONAL ACHIEVEMENTS

* Published 10 peer-reviewed journal articles, 5 first-author.
* Co-hosted and produced the podcast *Fight the Future*, which was downloaded over 100,000 times and nominated for a Hugo Award.
* Co-wrote book chapter in *Doctor Who Psychology: A Madman with a Box*, to be released October 2016 by Sterling Publishing.