CURRICULUM VITAE - DR. SAMUEL JOHN ODELL MILLER

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Education

Oct 2010 - Jan 2014 Agents, Interaction, and Complexity (AIC) Research Group, University of Southampton

PhD **Multi-agent based techniques for coordination of electricity generation in a micro-grid.**

I investigated how multi-agent message passing techniques could be applied to manage micro-grids by coordinating electricity generator power outputs.

Oct 2006 - June 2010 University of Southampton

Degree **First Class Honours in Computer Science with Artificial Intelligence (MEng)**
(Third Highest in the year for Computer Science MEng)

My time spent at Southampton allowed me to specialise in artificial intelligence and its applications. I used advanced machine learning techniques, multi-agent based computing, genetic algorithms, and a variety of programming languages including Java and C/C++ to solve a range of problems; such as finding a tongue contour within an image, and implementing an agent to bid in advertisement auctions. In addition to self-study, I have also participated in and managed a number of successful group design projects proving that I can collaborate with others.

Dissertation Researching and Implementing a Computer Agent to Play Arimaa

I received a first class mark for my dissertation which was concerned with creating a computer agent written in C/C++ that played the board game Arimaa; a game specifically designed to be very difficult for computers to play. Artificial Intelligence is my passion and my dissertation enabled me to explore this area thoroughly.

Sept 2004 - July 2006 Hills Road Sixth Form College, Cambridge

A-Levels: Maths (A), Computing (B), Physics (B) AS-Levels: Further Maths (C)

Publications

S. Miller, S. D. Ramchurn, and A. Rogers, "Optimal Decentralised Dispatch of Embedded Generation in the Smart Grid," in *Proc. of the 11th AAMAS*, Valencia, Spain, 2012.

Employment

Aug 2017 - Present **Co-founder, Chief Technology Officer (Brevis, London)**

Co-founder of Brevis, a Fintech startup with the aim to produce smart software for accounts production. I am responsible for overall direction and development of the software.

Sept 2014 - Present **Software Engineer (Cyberscience, Hoddesdon)**

I am primarily working on our business intelligence software Cyberquery, for both Windows and the web. On a day to day basis, I program in a variety of programming languages including C/C++, Java, and JavaScript.

Jan 2014 - Aug 2014 Research Fellow (Energy Systems and Services, BAE Systems, Portsmouth & Agents Interaction, and Complexity Research Group, University of Southampton)

I was contracted to BAE Systems, on a full time basis from the University of Southampton, with the aim of transferring research from academia to industry. The main focus was to implement appliance recognition in BAE System's electricity microgrid project using the machine learning WEKA framework in Java.

Feb 2013 - April 2013 **Research Scientist (Internship: Advanced Technology Centre, BAE Systems, Bristol)**

Supervisor - Dr. Antony Waldock

I designed and implemented a highly parallel Hadoop program (in Java) for optimising a parametric model used to predict the stress experienced at various locations on Eurofighter Typhoons.

July 2010 - Sept 2010
July 2009 - Sept 2009
July 2008 - Sept 2008

Research Project Programmer (3 internships: Intelligence, Agents, Multimedia Research Group, University of Southampton)

Supervisor - Dr. Alex Rogers

I implemented a number of websites in processing.js, javascript and php which displayed energy information associated with buildings within the University of Southampton.
(See **http://energy.ecs.soton.ac.uk/energy/display1/** and **http://energy.ecs.soton.ac.uk/energy/display2/**)

I worked on a number of projects implementing the graphical viewers to demonstrate various intelligent algorithms. I was responsible for the design, implementation and testing. A number of my viewers have been used at presentations and as teaching tools in the UK and Japan.

I implemented a 3D viewer for simulating disaster management. I was responsible for the design, implementation and testing which allowed me to be inventive with each aspect. I created buildings, roads and implemented animations and textures using Java3D.

Technical Skills

Programming Languages and frameworks

Very Experienced	Java (Swing, Objects, Junit), JavaScript (jQuery, Node, Angularjs), HTML, CSS (Less), Grunt
Experienced	C/C++, Mongodb, Shell scripts (bash, zsh)
Competent	Python, Matlab

Operating Systems and Applications

Very Experienced	Windows
Experienced	Linux (Ubuntu, Raspbian), Visual Studio, Eclipse IDE, Atom, Inkscape
Competent	OS X

Interests and Experience

- **Teaching Java, C/C++ and C# to Southampton University undergraduates.**
- Implemented the backend SQL database and frontend php logic for http://comparethelandlord.co.uk/ (no longer live).
- Implemented a WordPress solution for a Cambridge based mental health charity **http://cambridgepsychotherapyassistancetrust.org/**
- Team leader for Southampton at the agent electricity trading competition (PowerTAC), held at IJCAI 2011.
- Rock climbing at various indoor climbing walls and some outdoor locations.
- **Cuban salsa choreographer and performer for PureDance 2013 and 2014 performing arts societies' show.**
- President and social secretary of Southampton University Circus Society. I taught poi and diabolo. I am also proficient at staff spinning and can fire breath.
- Manager of a music event called BassJam.
- Member of drama and music events, barbershop, choir (Soloist), brass band, wind band.
- Grades 1 to 5 for associated board trumpet exams and grade 5 music theory.
- Demos of some of my programming work available at **http://www.samuelmiller.org/#demos**

Summer Schools and Training Programs

In order to further my studies and widen my knowledge within the key research areas of my PhD, I have attended a number of summer schools and training programs - Machine Learning Summer School (2012), Doctoral Training Program held at AAMAS (2012), UKERC Energy Summer School (2012), European Agent Systems Summer School (2011).

Awards

Atmel Prize 2010	**Outstanding performance (Second overall for degree Part IV marks)**
Netcraft Prize 2009	Outstanding performance (Top 10 percent for degree Part III marks)
Zepler Scholarship 2009	Outstanding performance (Top 10 percent for degree Part III marks)

References available upon request