Vincent Russo

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LinkedIn: https://ca.linkedin.com/in/vrusso11

Github: https://github.com/vprusso

Webpage: http://vprusso.github.io/

EDUCATION

◇ **University of Waterloo** — Sep 2012 – Feb 2017
Ph.D., Computer Science

◇ **Wayne State University** — Sep 2010 – Aug 2011
M.Sc., Computer Science

◇ **Wayne State University** — Sep 2007 – Aug 2010
B.Sc., Computer Science

EXPERIENCE

◇ **Security quality assurance developer and researcher – ISARA**, Waterloo, ON May 2017 – Present

◇ **Graduate Researcher – University of Waterloo**, Waterloo, ON Sep 2012 – Feb 2017
– Contributor to *QETLAB*; a software package used to study theoretical aspects of quantum computing. Software has been cited in numerous scientific publications.

◇ **Data Engineer, Consultant – SkyWatch**, Kitchener, ON Sep 2016 – Oct 2016
– Developed back-end data acquisition and processing service using Python, MySQL, and AWS resulting in an API service.

◇ **Software Engineer, Intern – Raytheon BBN Technologies**, Cambridge, MA May 2012 – Sep 2012
– Contributed to the development of *QuaFL*; a statically typed domain specific language to study quantum computing using Python.

◇ **Research Assistant – Wayne State University**, Detroit, MI Nov 2010 – Jan 2012
– Contributed to development of *GOMC*; a GPU-driven open-source Monte Carlo simulation engine written in C++ that uses the CUDA library. Our software yields a 29 times faster implementation than an optimized serial CPU-driven code.

◇ **Software Engineer – Wayne State University**, Detroit, MI Nov 2010 – Nov 2011
– Developed a web client in PHP and Python to interface with mobile devices that tracked and stored data from several hundred patients in a MySQL database. Software has been cited in peer-reviewed work.

◇ **Software Engineer, Intern – University of Michigan**, Ann Arbor, MI May 2010 – Sep 2010
– Processed several hundred gigabytes of data sent back from spacecraft. Used IDL, C++, and Python to perform analysis and data visualization for internal reports.
– Solved an issue unresolved by NASA engineers by analyzing anomalous data sent back from spacecraft. Presented an oral and written report of work to department.

TECHNICAL SKILLS

◇ **Languages:** Python, C/C++, Matlab, Java, MySQL, PHP, R, JavaScript*, Haskell* (*some experience)

◇ **Tools:** NumPy, SciPy, Scikit-Learn, Pandas, Matplotlib, Regex, LaTeX, Django, bash, git

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INDEPENDENT PROJECTS

◇ Developed Android applications in Java totalling over 1,500 downloads from the Google Playstore.

◇ Contributed code for symbolic manipulation of quantum mechanical operators to SymPy.

◇ Built an Android application for a NASA sponsored event that uses machine learning and visual recognition tools to study climate change.

ADDITIONAL EXPERIENCE

◇ Machine Learning Foundations – certificate earned - (Coursera E-learning).

◇ Stanford: Statistical Learning – with distinction - (Stanford Online).

◇ Intro to Machine Learning and Intro to Data Science – audit - (Udacity E-learning).

◇ Served as teaching assistant for courses based on Algorithms and Data Structures, Discrete Mathematics and Python Programming.

PUBLICATIONS   ◇ *"Quantum hedging in two-round prover-verifier interactions"*,
S. Arunachalam, A. Molina, V. Russo,
Theory of Quantum Computation, Communication and Cryptography (TQC), (2017).

◇ *"Extended nonlocal games and monogamy-of-entanglement games,"*,
N. Johnston, R. Mittal, V. Russo, J. Watrous,
Proceedings of the Royal Society A, Volume: 472 Issue 2189, (2016).

◇ *"Limitations on separable measurements from cone programming"*,
S. Bandypadhyay, A. Cosentino, N. Johnston, V. Russo, J. Watrous,
IEEE Transactions on Information Theory, (Volume:61, Issue 6), (2015).

◇ *"Is absolute separability determined by the partial transpose?"*,
S. Arunachalam, N. Johnston, V. Russo,
Quantum Information & Computation, 15(7& 8):0694-0720, (2015).

◇ *"An algorithm for the T-count"*,
D. Gosset, V. Kliuchnikov, M. Mosca, V. Russo,
Quantum Information & Computation, Volume 14 Issue 15-16, Pages 1261-1276, (2014).

◇ *"Small sets of locally indistinguishable orthogonal maximally entangled states"*,
A. Cosentino, V. Russo,
Quantum Information & Computation, Volume 14 Issue 13-14, Pages 1098-1106, (2014).

◇ *"GPU-accelerated Gibbs ensemble Monte Carlo simulations of Lennard-Jonesium"*,
J. Mick, E. Hailat, V. Russo, K. Rushaidat, L. Schwiebert, J. Potoff,
Computer Physics Communications, (2013).

◇ *"Parallel Monte Carlo simulation for the canonical ensemble on the GPU"*,
E. Hailat, J. Mick, V. Russo, K. Rushaidat, L. Schwiebert, J. Potoff,
Journal of Parallel and Distributed Computing, (2012).

◇ *"Beatty sequences, Fibonacci sequences, and the Golden ration"*,
V. Russo, L. Schwiebert,
Fibonacci Quarterly 49, 151-154 (2011).

PROCEEDINGS   ◇ *"GPU MCMC developments: CBMC nonpolar molecules, verlet lists, and architectural optimizations"*,
J. Mick, E. Hailat, V. Russo, K. Rushaidat, L. Schwiebert, J. Potoff,
AIChE (American Institute of Chemical Engineers), (2012).

◇ *"Optimization of a Lennard-Jones particle Monte Carlo GPU-code"*,
J. Mick, E. Hailat, V. Russo, K. Rushaidat, L. Schwiebert, J. Potoff, AIChE (American Institute of Chemical
Engineers), (2012).

◇ *"GPU accelerated configurational bias Monte Carlo simulations of linear alkanes"*,
J. Mick, E. Hailat, V. Russo, K. Rushaidat, L. Schwiebert, J. Potoff,
AIChE (American Institute of Chemical Engineers), (2012).

◇ *"GPU accelerated Monte Carlo simulations in the Gibbs and canonical ensembles"*,
J. Mick, E. Hailat, V. Russo, K. Rushaidat, L. Schwiebert, J. Potoff,
AIChE (American Institute of Chemical Engineers), (2011).

THESES   ◇ *"Extended nonlocal games"*,
V. Russo
University of Waterloo, (2017).