Vincent Russo

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Waterloo, ON

United States: Citizen

Canada: Permanent Resident

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 – ISARA**, Waterloo, ON   May 2017 – Present

  – Developed correctness testing suite for internally produced cryptographic protocols.

⋄ **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 ◇ *"Extended nonlocal games and quantum-classical games"*,
V. Russo, J. Watrous,
arXiv preprint:1709.01837, (2017).

◇ *"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).