

Vincent Russo

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EDUCATION	<ul style="list-style-type: none">◇ 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
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EXPERIENCE	<ul style="list-style-type: none">◇ 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 <i>QETLAB</i>; 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 <i>QuaFL</i>; 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 <i>GOMC</i>; 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.
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TECHNICAL SKILLS	<ul style="list-style-type: none">◇ Languages: Python, C/C++, Matlab, Java, MySQL, PHP, R, JavaScript*, Haskell* (*some experience)◇ Tools: NumPy, SciPy, Scikit-Learn, Pandas, Matplotlib, Regex, L^AT_EX, Django, bash, git
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INDEPENDENT PROJECTS	<ul style="list-style-type: none">◇ 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.
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ADDITIONAL EXPERIENCE	<ul style="list-style-type: none">◇ 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.
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- 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).
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- 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).
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- THESES
- ◇ “*Extended nonlocal games*”,
V. Russo
University of Waterloo, (2017).