Haider Riaz Khan

Software Engineer and Physicist

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Employment

Software Engineer - Medidata Solutions (NYC, USA) Jan 2016 - Feb 2017

- Designed and developed a Java based automated framework for ETL applications that consolidated Amazon Web Services (AWS) and Pentaho (data integration program).
- Contributed to the ongoing development of an innovative testing tool called BIT-TAG; a combinatorial and adaptive Java software program to generate test data for big data applications.

NSERC Neuroengineering Fellow - Ruthazer Lab, Montreal Neurological Institute May 2014 - April 2015

- Authored CANDLE-J; a 3-D image denoising software designed as an ImageJ plugin. CANDLE-J is very adept at processing deep in vivo 3D multiphoton microscopy images where the signal to noise ratio is low (SNR).
- The program is written in Jython, Java, and C. The Java Native Accesss (JNA) library is utilized to incorporate native C libraries. Binaries are available for Mac OS X, Windows, and Linux systems.

Education

Master of Arts; Philosophy - University of Waterloo Sep 2017 - Aug 2018

- Thesis: On the Cognitive Origins of Property *(Advised by John Turri)*
- Areas of Specialization: Foundations of Quantum Theory, Cognitive Science, and Political Philosophy

Bachelor of Science; Physics and Computer Science - McGill University Sep 2010 - Apr 2015

- Physics Subjects: Classical Mechanics, Thermal Physics, Quantum Mechanics, Electromagnetism, and Electronics
- CS Topics: Object-Oriented Programming, Dynamic Programming, Functional Programming, Data Structures, Graph Algorithms, Greedy Algorithms, Computational Complexity, and Linear Programming.

Programming

- Java, C, Python, OCaml
- GCC, javac, Jenkins, Maven, SonarQube
- AWS, Pentaho, MATLAB, ImageJ
- Git, Bash, Vim, Latex, SQL

Awards & Honors

- Dean's Multidisciplinary Undergraduate Research List (McGill 2015)
- NSERC-CREATE Neuroengineering Award (McGill 2014, $5,625)
- Alexander Rutherford Scholarship (Western Canada High School 2010, $2,500)

Publications

- Nan Li, Jeff Lei, **Haider Riaz Khan**, Jingshu Liu, Yun Guo. Applying Combinatorial Test Data Generation to Big Data Applications. *ASE 2016: Proceedings of the 31st IEEE/ACM International Conference on Automated Software Engineering*, Pages 637-647, August 2016, Singapore.