



# HAIDER RIAZ KHAN

Software Engineer and Physicist

 haiderriazkhan  
 haider-khan-57593aba

 <https://haiderriazkhan.com>  
 haiderriazkhan@hotmail.com

## 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 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 Access (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: *The Phenomenological 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, JavaScript, Go
- GCC, javac, Jenkins, Maven, Docker
- AWS, Pentaho, MATLAB, ImageJ
- Git, Bash, SonarQube, Latex, SQL

## Awards & Honors

- Paul Seligman Memorial Scholarship (University of Waterloo 2018, \$1200)
- 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.