Tel & Mail

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HaiderKhan

Software Developer & Physicist

Software Programs

MatLab ★★★★★
ImageJ ★★★★☆

Employment

01/16 - 02/17 **Software Engineer** — Medidata, New York City
Designing and developing a Java based automated test framework for ETL applications.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.

01/15 - 04/15 **Research Assistant** — Francois Lab, McGill University
Employing in silico evolution to develop a robust formalism for T-Cell activation.The system is described using coupled differential equations and the evolutionary simulations are performed using MatLab.

05/14 - 04/15 **NSERC Neuroengineering Fellow** — Ruthazer Lab, Montreal Neurological Institute
Authored CANDLE-J; a 3-D image denoising software designed as an ImageJ plugin. CANDLE-J is written in Jython, Java and C. The Java Native Accesss (JNA) library is utilized to incorporate native C libraries.

12/12 - 05/14 **Research Assistant** — Cook Lab, McGill University
Developed MatLab routines to measure the cross-correlation of microsaccades and microstimulations (in area MT of the visual cortex). Created a library of MatLab functions to compute joint metrics of neural activity. The joint metrics are computed for both single unit and multi unit neuronal spikes.

Education

2010 - 2015 **Bachelor of Science; Physics and Computer Science** — McGill University
Main subjects: Classical Mechanics, Thermal Physics, Quantum Mechanics, Electromagnetism and Electronics. Object-oriented programming, Dynamic programming, Functional programming, Linear programming, Graph algorithms, Greedy algorithms, complexity and NP-completeness and data structures.

Programming

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

Awards and 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)

Languages

English ★★★★★
Pashto ★★★★★
Urdu ★★★★★

Presentations & Talks

- Automated Software Engineering (ASE) 2016, Singapore Management University
- Student Summer Colloquium Presentation, McGill University (2014)
- Honours Physiology Project Presentation, McGill University (2014)

Peer Reviewed 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.*
- **Haider Riaz**, Martin Munz, Pierrick Coupe, Edward Ruthazer, D. Louis Collins."CANDLE-J: An ImageJ plugin for deeper in-vivo insight". *In Preparation*
- **Haider Riaz**, Ashkan Golzar."Microstimulations to the Middle Temporal Area and its Effect on the Generation of Microsaccades". *MSURJ, 9(1):25-30.*
- **Haider Riaz**, Alex Klotz, Walter Reisner."Force-Fluctuation Physics of Confined DNA: Probing the breakdown of the Marko-Siggia Law". *MSURJ, 8(1):24-29*

Haider Riaz Khan