

# SAYAN FARAZ

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## SKILLS

- Proficiency in Java, Python, HTML/CSS, SQL; working proficiency in C#, C
  - Understanding of fundamental data structures, algorithm efficiency analysis, search/sort algorithms
  - Computer physics simulations, data analysis in Python (SciPy, NumPy, Matplotlib)
  - Currently learning about brain computer interface signal processing and applications (Python, MATLAB), neural networks + machine learning
  - Tools: IntelliJ, Eclipse, Visual Studio, PyCharm, Git/GitHub, unit testing frameworks, command line, Linux
- Experiment design, scientific method, statistical analysis, literature review, Agile development, test-driven development, design patterns, memory management

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## PROJECTS

### VITREOUS —PYTHON, SCIPY, NUMPY, OPENBCI FRAMEWORK

- Eye gestures system for VR/AR devices: hardware to collect EOG + software to analyse EOG and translate to gestures

### FLAPPY BIRD —JAVA/SWING

- Flappy Bird + cleaner graphics!

### WALL-EEG (IN PROGRESS)—PYTHON, SCIPY, NUMPY, OPENBCI FRAMEWORK

- Mind-controlled bot: drone receiving commands calculated from supervised machine learning on motor thoughts (EEG)

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## WORK EXPERIENCE

### PROFESSIONAL EXPERIENCE

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#### FELLOW: UNIVERSITY OF TORONTO ENTREPRENEURSHIP HATCHERY

MAY—SEPT 2016

- Developing a medical wearables startup under the Hatchery framework (Python/Kivy (+ SciPy, NumPy, etc), OpenBCI)
  - Skills: medical hardware/software integration, signal processing, business development

#### INTERN: FOCUSED ULTRASOUND LAB AT SUNNYBROOK RESEARCH INSTITUTE

JUL—AUG 2014

- Designed, co-wrote report describing Physical Sciences Platform (PSP) of the Sunnybrook Research Institute
  - Topics: research, available resources, commercialization track record, initiatives to promote innovation

JUL—AUG 2013

- Designed, implemented modern layout for website of FUS Instruments, an ultrasound research technology company
- Created 3-D models of various parts of the blood brain barrier, such as the endothelial cells in the barrier

### LEADERSHIP INITIATIVES

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#### FOUNDER, PRESIDENT—NEUROTECHUOFT

OCT 2015—CURRENT

- Group aiming to help students at U of T drive neurotechnology innovation
  - create and execute neurotechnology research and product development projects
- My duties:
  - Brainstorming and execution of mandate to achieve long term goals, along with executive council.
  - Leading or advising research and development projects (mind-controlled bot, EOG-based eye gestures system)

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## EDUCATION

### UNIVERSITY OF TORONTO—PHYSICS, COMPUTER SCIENCE ; GPA: 2.95

2014—2019 (EXPECTED)

- Related Courses :

#### Current:

- CSC209: Software Tools+Systems Programming
- CSC263: Data Structures & Analysis

#### Previous:

- CSC207: Software Design
- CSC258: Computer Organization
- CSC343: Introduction to Databases
- CSC236: Introduction to Theory of Computation
- STA247: Probability w. Computer Applications
- PHY224: Practical Physics (Laboratory)

- Awarded the University of Toronto President's Entrance Scholarship