MATTHEW SILVERMAN

Computer Engineering Student Graduating April 2020

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EDUCATION

BASc Student in Computer Engineering // University of Toronto // September 2015 - April 2020

CGPA: 3.80
Dean's Honors List, 2015-2019
Edward S. Rogers Sr. Admission Scholarship
Relevant Courses: Algorithms and Data Structures, Operating Systems, Computer Systems Programming, Computer Architecture

SKILLS

Computer Languages: C, C ++, Java, Python, Assembly, SQL, MATLAB, Verilog, HTML5

WORK EXPERIENCE

Software Engineer, Build & Infrastructure Team // Intel PSG // May 2018 - August 2019

+ Developed various Python tools to automate core processes that the entire software department depends on. This includes a file parser to auto-detect error messages and a system to execute a prolonged branching process for new releases faster by a factor of 4x.
+ Debugged issues that occurred in daily builds and worked with responsible teams to create and integrate an appropriate software solution in a timely manner.
+ Developed and deployed solutions for critical issues reported by users of the build and test infrastructures owned and developed by my team.

Summer Research Student // Holland Bloorview Kids Rehabilitation Hospital // May - August 2017

+ Developed an Android app in Java that plays a reactive drum machine which modulates in real time based on Bluetooth input from a wearable Arduino device.
+ Designed, manufactured and programmed a custom Arduino device that can be worn by a patient to interact with the Android application by transmitting mechanomyographic leg muscle data to the Android device via BLE.
+ Worked as an active researcher in an interdisciplinary lab where I collected and processed my own data including EEG & NIRS data to measure the neural response to auditory stimuli, and MMG data to analyze leg muscle behavior mid-stride.

PROJECTS

Published: "Designing a wearable MMG-based mobile app for gait rehab" // 2017 IEEE Life Sciences Conference

+ The mobile app applies Rhythmic Auditory Stimulation to encourage a healthy gait pattern for children with cerebral palsy by creating a drum machine which updates dynamically through biofeedback from online MMG data.
+ Presented a research poster at the 2017 Ward Summer Student Research Day discussing the novelty of MMG data and its feasibility of use for the project.

Software Developer at the University of Toronto Aerospace Team // Heron Mk. Satellite Team

+ Helped develop and test various command and data handling components for the satellite's microcontroller, developed in C.
+ Contributed to Canada's first fully student-funded satellite, expected to launch in June 2020.

Mapping Software // An Interactive GIS

+ Worked in a team of 3 to develop a graphical map in C++ with a variety of interactive features.
+ Implemented Dijkstra's Algorithm to efficiently identify a best path between two locations based on distance.