Ahmed A. **Altaha**

MEng · Software Engineer · Mechatronics Engineer

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"If you optimize everything, you will always be unhappy."

Skills Summary

- 5+ Years of C/C++ experience. Developing concurrent high performance software on platforms such as Linux Kernel, Android NDK, wearables, Win32, distributed systems, device drivers, and microcontrollers.
- 2+ Years web backend experience. Using Python, Django, NodeJS, MySQL, PostgreSQL, Ansible, AWS.
- 2+ Years web frontend experience. High expertise in Javascript/ES6, ReactJS/Flux, BackboneJS, SASS, Selenium.
- Expertise in Matlab, Machine Learning, Signal Processing, and Computer Vision
- Hardware & Robotics; CAD mechanical design; motors and control; PCB schematics; sensor circuits
- Quick learner, team player, customer focused, and experienced in Agile development practices

Education

Master of Engineering (MEng), Computer Engineering

Toronto ON, Canada

University of Toronto — *2013 - 2016*

- Part-time course based masters
- Courses: Algorithms; NoSQL Database Systems; Computer Vision; Computer Security; Biometrics; Financial Engineering;

Bachelor of Applied Sciences (B.ASc), Mechatronics Engineering

Waterloo ON, Canada

University of Waterloo — *2007 - 2012*

- Strong Background in Software, Robotics, Controls and Electromechanical design.
- Graduated with outstanding 88% cumulative average within top 10 percentile.
- Completed six 4-month internships in a variety of engineering environments.

Work Experience

Full Stack Web Software Engineer

Toronto ON, Canada

Top Hat Inc — *Dec. 2014 - Present*

Education technology company building a real-time platform for in lecture student engagement.

- Built RESTful APIs and scalable backend features using Python Django, MySQL, RabbitMQ, and Memcached.
- Developed large and interactive single-page web app using ReactJS/Flux, ES6, and SASS
- Implemented integrations with 3rd party education management platforms, securing company's largest ever enterprise contract.
- Lead efforts to implement user accessibility in the TopHat web app.
- Automated AWS Infrastructure using Ansible.

Embedded & Linux OS Software Engineer

Toronto ON, Canada

Qualcomm Inc — *May 2012 - Nov. 2014*

- Designed and developed Linux Kernel device drivers for video capture and processing on Android devices. Managed concurrency, real-time performance, security, and power efficiency. Driver launched on Samsung Galaxy Note 4.
- Developed driver and firmware for a SPI fingerprint sensor on a wearable device using STM32 micro-controller.
- Brought up new hardware components on new Qualcomm SoC using Linux device tree. Starting from pre-silicon simulation platforms to OEM integration and commercial release.
- Bit exact simulation of a next-gen display processor for new SoC using C++.

Audio Systems Engineering Intern

Markham ON, Canada

VerifEye Technologies Inc — *Aug. 2010 - Dec. 2010*

- Designed and implemented a framework for objective Audio quality testing. Includes DSP based audio distortion detection in Matlab, and a python based system for blind A/B human listening tests with statistical analysis.

Software Engineering Intern *Sudbury ON, Canada*

Vale Inco *May. 2009 - Aug. 2009*

- Implemented a multi-threaded Win32 application for data-logging and real-time processing, including DSP filters and Fourier transforms. Includes a .NET based monitoring GUI.
- Implemented a program on embedded Linux that interfaces with sensors and actuators, and communicates with the Win32 program over a custom TCP-based protocol.

Projects

- Analysis of JSON query and transactional performance in relational DBMS (PostgreSQL JSONB) vs document stores (MongoDB)
- Developed MVP for successful web start up excitem.tv (PHP, JQuery)
- Developed a natural control interface for robotic arms, using Kinect sensor and a custom built wearable glove
- Implemented a distributed hash table using C++ and Apache Thrift RPC
- Developed a Javascript code rules checker using Esprima parser, React, and Web Workers
- Neural Network classifier of musical notes trained using MIDI content (Matlab)
- Developed a tool to scan Android apps for SMS malware using static analysis (Java)
- Designed a 3D printer currently used for biomedical tissue replacement research (SolidWorks)

Honours & Awards

- Dean's Honour List. Highest academic distinction in Waterloo Engineering.
- NSERC undergraduate student research award.
- Four Qualstar awards at Qualcomm for exceptional contributions.
- City of North York Indoor soccer league champions - Division 2, Winter 2015