

Alex Tobias

US/Canada Dual Citizenship

alexanderleetobias@gmail.com Email
[Alex Tobias](#) LinkedIn
[alextobias](#) Github

Education

University of Toronto

Expected May 2022

- B.S. Computer Science, **3.9/4.0 GPA**

University of Waterloo

Transferred to University of Toronto

- B.ASc. Mechatronics Engineering, **3.9/4.0 GPA**

Work Experience

FlyFarm Agritech Software Engineer

*Hong Kong
May - Jul 2020*

- Designed and deployed proprietary edge device network for live **IoT** sensor data aggregation & reporting
- Results included **150% improvement** in environmental stability and **100+ hours** of operational labor saved
- Created production tracking tools using **computer vision (OpenCV)** resulting in **20% increased** production rate
- Developed management application for network on **React.js + Flask + MySQL stack**, defined and implemented **RESTful API** for managing sensors on the back-end

Bionik Laboratories Software Engineering Intern

*Toronto, ON
Jan - Apr 2019*

- Developed embedded **RTOS** software for **ST Microcontrollers in C** in therapeutic-assistive robotic system
- Increased system graphics **cost-efficiency over 50%** by analysing and automating rendering tests
- Implemented communications using **CAN** and **I2C** protocols, **decreased accelerometer latency by 10%**
- Created internal tools to test **AMQP** protocol, **WebRTC** and other experimental system features

Isolated Electronics R&D Intern

*Hong Kong
May - Aug 2018*

- Sole developer for prototype of a **raspberry-pi based** personal cryptocurrency hardware wallet
- Built device interface to read, store, create and render **QR codes** in **C++** with **4DGL** and **ncurses** libraries
- Worked closely with design team in creating a functional **MVP** to present to investors

Vision & Image Processing Lab Research Student

*University of Waterloo
Jan - Apr 2018*

- Worked with Prof. Rob Amelard in development of a novel heart arrhythmia detection method
- Wrote Python program to efficiently gather & convert over **30 million** waveform ECG samples for analysis

Synaptive Medical Engineering Intern

*Toronto, ON
Sept - Dec 2017*

- Developed scripts to automate usage of product lifecycle management (**PLM**) system
- Wrote design documentation (**DHF**) as required by product development procedures

Skills & Interests

- Languages: **Python, C, C++** (Proficient); **Javascript, Lisp, Haskell** (Intermediate); **Java** (Basic)
- Technologies/Tools: **React, Flask**, git, Linux, PostgreSQL, MySQL, FreeRTOS, AWS IoT, Elasticsearch, Heroku
- Coursework: **Data Structures & Algorithms, Databases, Systems Programming, Language Design**
- Technical Interests: Functional Programming, Language Design, Linux Kernel, Operating Systems