

Andy Tan

3B Mechatronics
Engineering

SKILLS

LANGUAGES

C/C++
Python
MATLAB
Excel VBA

PROTOTYPING

Raspberry Pi
Arduino
STM32
Soldering
3D Printing

DEVOPS

Git/Mecurial
Gradle
Jenkins
JIRA

DESIGN

SOLIDWORKS (CSWA)
AutoCAD

OPERATING SYSTEMS

Linux
Excel

EDUCATION

UNIVERSITY OF WATERLOO

Candidate for BAsC in
Mechatronics Engineering
2020

CONTACT

✉ a32tan@uwaterloo.ca
☎ (905)-515-9569
📍 Stoney Creek, ON
🌐 andy-tan.ca

EXPERIENCE

FUTURE SOFTWARE INTERN | *NVIDIA*

Jan. 2019 - Apr. 2019 | Santa Clara, California

- Will contribute to the development of the **Jetson Embedded Platform**

EMBEDDED SOFTWARE DEVELOPER | *IMAGINE COMMUNICATIONS*

Apr. 2018 – Aug. 2018 | North York, ON

C | C++ | I2C | Shell Scripting | PWM | Linux

- Designed a **PID loop** to control **PWM** fans to efficiently cool down FPGAs
- Increased driver compile time by over **60%** through optimizing register array generation, which led to over an **80% decrease** in on board memory
- Created a library that uses **I2C protocol** to actively control the Selenio™ Network Processor's power supplies

IMAGE PROCESSING CO-OP | *FLEX*

Sept. 2017 – Dec. 2017 | Markham, ON

C++ | Python | OpenCV | ARM64 | Raspberry Pi | Linux

- Optimized a **Python** script that synchronizes positional data collected from an infrared camera with a magnetic tracker
- Improved a start-up routine regarding TCP to CAN messages on a **Raspberry Pi**; increasing consistency from **30% to 90%**
- Implemented face detection on an **NXP S32 Vision Processor**

PROJECTS

FACE TRACKING MODULE

Dec. 2017

C++ | OpenCV | Stepper Motor | Raspberry Pi

- Interfaced a Point Grey research camera and **L293D** with a **Raspberry Pi**
- Enabled a bipolar **stepper motor** to rotationally follow a subject's head position through the use of **facial recognition**

STACKER

Jun. 2017

C | RTOS | Peripherals | Interrupts

- Managed an **ARM Cortex-M3 micro-controller** using semaphores and interrupts to create a stacking game from scratch
- Integrated **peripheral** functions that provide the user with the ability to adjust and view game settings

INTERESTS

- Bouldering, volleyball, frisbee, hip-hop dance, photography