Andy Tan

3A Mechatronics Engineering

SKILLS

LANGUAGES
C++
C
Python
MATLAB
Excel VBA
LaTeX

PROTOTYPING
Raspberry Pi
Soldering
3D Printing

DESIGN
SOLIDWORKS (CSWA)
AutoCAD
PLC
FPGA

OPERATING SYSTEMS
Linux
Excel

EDUCATION

UNIVERSITY OF WATERLOO
Candidate for BASc in
Mechatronics Engineering 2020

CONTACT

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📍 Stoney Creek, ON

EXPERIENCE

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 from an infrared camera and magnetic tracker
- Devised a solution for an inconsistent start-up routine regarding TCP to CAN messages on a **Raspberry Pi**
- Implemented face detection on an **NXP S32 Vision Processor** using a TFTP and NFS server hosted on **Ubuntu**
- Streamed and recorded video using a **Raspberry Pi's** GPU

MECHANICAL ENGINEER | *LINAMAR*
Jan. 2017 – Apr. 2017 | Guelph, ON
Excel VBA | SOLIDWORKS | AutoCAD

- Developed **Excel VBA** scripts to generate and forward autonomous emails based on daily user input data
- Designed structures in **SOLIDWORKS** to optimize process flow and CNC machine efficiency

PROJECTS

FACE TRACKING MODULE
Dec. 2017
C++ | OpenCV | Stepper Motor | Raspberry Pi

- Interfaced a Point Grey research camera and **L293DNE motor driver** with a **Raspberry Pi**
- Enabled a bipolar **stepper motor** to rotate based on the direction a subject's head is facing

STACKER
Jun. 2017
C | RTOS | Peripherals | Interrupts

- Managed an **ARM Cortex-M3 micro-controller** using semaphores and interrupts to create a stacking game
- Implemented multiple **peripherals** to allow the user to navigate through different game modes and screens

INTERESTS

- Volleyball, basketball, soccer, hip-hop dance, photography