

# Fernando Yee

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## SKILLS & QUALIFICATIONS

- **Languages:** Python, Visual Basic, ladder logic, structured text, C++, C#, Bash
- **Technologies:** Git, SVN, JIRA, .NET Framework, programmable logic controllers, industrial automation
- **Experience:** Robotics, research and development, rapid prototyping, scripting, automation

## WORK EXPERIENCE

### **Software Developer, ATS Automation**

*January 2019 – Present*

- Lead research and development for a high value NDA project to validate new technologies and processes on a future product. Secured a conditional \$20 million customer contract while also attracting other potential customers.
- Developed a suite of Python scripts to collect data, perform computations, and input training data into a machine learning model. Reduced amount of manual data entry by 80%.
- Created an algorithm to monitor curing status of blood testing kits in a multi-level drying chamber. Designed and implemented a queue for part tracking and a ranking system to determine best level to load parts onto.
- Regularly contributed feature changes and bugfixes to the codebase with a focus on structure and performance. Developed primarily with Python, Visual Basic, and C# for GUI and C++ and STL for embedded controllers.

### **Control Systems Software Designer, ATS Automation**

*May 2018 – August 2018*

- Created control logic on a PLC to adjust lens focus on-the-fly for a laser welding system for electric vehicle batteries. Reduced amount of rejected parts by 50%.
- Developed a digital twin simulation of a machine used to refurbish reactor cores in nuclear power generation facilities. Digital twin simulation was used to train nuclear technicians before working on the real system.
- Worked with professional controls engineers to improve fault handling routines in the company code base.

### **Control Systems Software Designer, Powerhouse Controls**

*September 2017 – December 2017*

- Created standard function blocks for the company code base to standardize code and encourage code reuse for common sensors and actuators used in industrial automation.
- Updated and maintained code generation scripts by addressing known bugs, improving code documentation, and integrating standard function blocks into the generation code.

### **Hardware Engineering Intern, Danaher Corporation**

*January 2017 – April 2017*

- Developed embedded testing software on an Arduino for stress testing and performing accelerated life testing on products. Collected results and wrote engineering reports conforming to IEEE standards.

### **Software Developer, Linamar Manufacturing**

*May 2016 – August 2016*

- Created Excel VBA macros and Python scripts to handle material requisition forms, e-mail replies, and data entry. Reduced amount of manual work by 70%.

## PROJECT EXPERIENCE

### **CHIP-8 CPU Emulator**

- Developed a CHIP-8 CPU emulator in Python. Integrated additional features such as a GUI for ROM selection, adjustable clock speed, and a save state.

## EDUCATION

### **University of Waterloo, Bachelor of Applied Science, Mechatronics Engineering**

*September 2015 – April 2020*

- Graduation with Distinction (3.70 GPA), President's Scholarship
- Formula SAE Motorsports Student Team, UW Electronic Music Production Club Mentor, Class Representative