

FEILAN JIANG

Versatile software-oriented maker

Goal-oriented problem solver

Inquisitive multidisciplinary learner

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QUALIFICATIONS

Software

C, C++, Python, Java, JavaScript, HTML, CSS

OpenCV, ncurses, Kivy, Plotly, Tkinter, Swing, JavaFX, jQuery, AngularJS, Node.js, Express.js

Git, GDB, Valgrind, npm

Proficient with Linux and Bash commands

Mechanical

AutoCAD, SOLIDWORKS

General machining

Robotics

Arduino, Raspberry Pi

Common sensors, PID loops, finite state machines

EDUCATION

BASc Mechatronics Engineering, University of Waterloo

WORK EXPERIENCE

Software Developer

Ford Motor Company

9/2017-12/2017

- **Developed** core components of upcoming Ford vehicles' power management systems in a **Linux-based environment**
- **Designed** and **implemented** an inter-process messaging system based on **POSIX message queues** and **Google Protocol Buffers**
- **Ensured** software quality by refactoring the codebase according to the **MISRA C and C++ coding standard**

Software Developer

Nanometrics Inc.

1/2017-4/2017

- **Developed** a **C-based** command-line utility for estimating the remaining lifespan of an **MMC device**
- **Devised** an SD card wear rate testing methodology involving **SMART data** and standard **SD controller commands**
- **Automated** cross-compilation of internal software tools by using the **Autotools** suite to generate the appropriate **Makefile**

PROJECTS & ACTIVITIES

Fog-screen Hologram

Collaborative Project

1/2017-present

- Low-cost **volumetric display** with applications in augmented reality and CAD
- Uses an **IR camera** that tracks the viewer's position and is timed using the **ATmega32U4's 16-bit timer overflow interrupt vector**

Random Movie Finder

Independent Project

8/2016

- Created a **Bootstrap** and **AngularJS**-based interactive movie recommendation tool
- Implemented a simple **Express.js**-powered **RESTful API** that provides form selection options and movie suggestions
- Stays updated with the latest movie trends through **The Movie Database API**

Electromechanical Team Member

UW Robotics Team

9/2016-7/2017

- Designed sensor and computer mounts in **SOLIDWORKS** and machined them for the university Robot Racing competition
- Oversaw the creation of an **Arduino**-powered, line following robot that used **photoresistors** to detect the line shade and play the corresponding musical note