FEILAN JIANG

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Languages	C++, C, Python, Java, HTML & CSS, JavaScript, TypeScript, MATLAB
Technologies	PCL, OpenCV, NumPy, Jupyter, Android, Angular, Node.js, Git, Subversion, GDB, Valgrind
Other Skills	SOLIDWORKS, AutoCAD, general machining, 3D printing, electronics prototyping and assembly
Education	Candidate for Bachelor of Applied Science in Mechatronics Engineering, University of Waterloo

WORK EXPERIENCE

ADAS Software Developer

BlackBerry QNX

5/2018-8/2018

- Worked as a student developer on QNX's **autonomous-vehicle** cameras and sensors team
- Performed **multi-threaded debugging** and delivered new features for the ADAS Platform's **LIDAR** sensor interface
- Built a reference **LIDAR object-detection algorithm** using **PCL** features such as progressive morphological filtering and Euclidean clustering

Power Management Developer

Ford Motor Company

9/2017-12/2017

- Developed core components of upcoming Ford vehicles' power management systems, working in a **Linux**-based development 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 and running **SonarQube** CI tests

PROJECTS & ACTIVITIES

Software Department Lead

FRC Team 4783

9/2015-5/2016

- Served as lead software developer of my high school's **FIRST Robotics Competition** team
- Devised and ran a week-long robotics programming course, teaching younger students about the fundamentals of **C++**, **Git**, and **WPILib** using a self-made curriculum
- Created and managed an online **Git repository** used by over **30 programmers**

IoT Smart Blinds

Collaborative Project

8/2017-Present

- Developing a low-cost **blinds controller attachment** that can be controlled through a mobile or web app
- Wrote **Arduino code** for interfacing with sensors and actuators, handling **HTTP requests**, and performing **EEPROM wear-levelling**
- Designed and fabricated an **acrylic enclosure**, developed the **electrical schematics**, and calculated **power requirements**

Fog-Screen Hologram

Collaborative Project

1/2017-4/2017

- Designed and prototyped a low-cost **volumetric display** with native support for **SketchFab** and other web-based 3D content platforms
- Developed the hologram's microcontroller code and created a **web interface** for viewing and displaying 3D models and animations
- Addressed motor overheating and power consumption issues by revising the hologram's electrical layout