

FEILAN JIANG

3B Mechatronics Engineering | Seeking 4-Month Placements

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EXPERIENCE

Infrastructure Engineering Intern

Uber ATG

Sep. 2019 – Dec. 2019

San Francisco, CA

- Developed an AWS pipeline for storing and searching thousands of calibration files, helping to enable one-touch calibration for any internal LiDAR sensor
- Created a time-saving Python tool that runs containerized calibration algorithms without needing individual Docker commands
- Modularized the Docker services of a sensor calibration suite, allowing for easier deployment to the cloud and orchestration using Kubernetes

Localization and Mapping Developer

Avidbots

Jan. 2019 – Apr. 2019

Kitchener, ON

- Created an automated ROS LiDAR calibration system used to prepare dozens of floor-scrubbing robots for the company's clients
- Designed a custom visual SLAM algorithm in C++ that assists with cleaning-plan start-pose correction and map symmetry-breaking

ADAS Software Developer

BlackBerry QNX

May 2018 – Aug. 2018

Ottawa, ON

- Enhanced a LiDAR driver by developing a point-cloud joining feature that shortens each library usage by up to 100 lines of C++ code
- Created a LiDAR object-detector demo used to introduce developers to PCL library features such as point-cloud downsampling and object segmentation

PROJECTS & ACTIVITIES

WATonomous Perception Team Member

- Serving as a computer vision engineer on a student team developing a level-4 autonomous vehicle for the SAE AutoDrive challenge
- Currently using OpenCV to implement detection and classification algorithms for roadlines and street signs

Autonomous Mobile Robot

- Developing a wheeled robot that is controlled using various hand gestures
- Uses the ROS software stack and Gmapping SLAM algorithm for autonomous navigation
- Performs hand gesture recognition using OpenCV and the Hand3D hand pose-estimation model

SKILLS

ROS PCL OpenCV

TensorFlow

AWS Docker

Kubernetes

Boost NumPy

Matplotlib SQL

OpenGL

Git Bash Scripting

SVN GDB Valgrind

Ubuntu QNX Neutrino

SOLIDWORKS AutoCAD

3D Printing Soldering

Machining

LANGUAGES

C++ ~4 Years

Python ~3 Years

C ~2 Years

JavaScript ~1.5 Years

EDUCATION

BASc Mechatronics Eng.

University of Waterloo

Sep. 2016 – Apr. 2021

INTERESTS

Classical Piano

Taekwondo PC Building

Food Lover Music Lover

Car Enthusiast