SHENG KUN (JASON) ZHOU

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EDUCATION

B.ASc. in Engineering Physics | **University of British Columbia**

September 2017 - May 2023 (expected) Vancouver, BC

Key Courses: Control Systems, Robotics Design, Algorithms, Machine Learning, Applied PDEs, Linear Optimization

EXPERIENCE

Software Integration Engineer Intern | **Tesla, Inc.**

October 2021 - August 2022 Palo Alto, California

- Integrated and validated safety-critical steering software across all Tesla vehicle platforms
- Led steering **HIL tester** build, implemented automated end-to-end testing infrastructure in **Python**
- Implemented new **CAN interfaces** for steering ECU functionality updates
- Implemented automated manufacturing routines for steering alignment and calibration
- Introduced steering check routines to global Service teams, reducing diagnostic time from >10mins to <15 seconds
- Owned and led initial specification with supplier of new ECU in new vehicle platforms
- Acquired and analysed **vehicle CAN data** using **PCAN** and **Vector CAN tools**

Research Assistant | **UBC Electrical Engineering**

April 2021 - September 2021 Vancouver, Canada

- Researched and implemented Augmented Random Search and Robust Cross Entropy reinforcement learning algorithms for safe reinforcement learning in **Python** and **OpenAI Safety Gym**.
- Project supervised by Dr. Maryam Kamgarpour

CV/ML Engineer Intern | **Verdi AG**

September 2020 - December 2020 Vancouver, BC

- Designed satellite **image clustering** algorithm using **Python** and **Scikit** allowing for precision irrigation
- Implemented **LSTM** based machine learning architecture using **Keras** to predict crop health up to 90% accuracy
- System contributed to >20% increase in crop yield

Instrumentation & Controls Engineer Intern | **Precision NanoSystems Inc.**

January 2019 - May 2019 Vancouver, BC

- Designed and implemented **electrical hardware** in mRNA nanomedicine production instruments
- Implemented **microcontroller**-based **control system** with **SPI** communications and **PID** in **Python**

PROJECTS AND COMPETITIONS

Autonomous Drone Development 2020 - Present

Python • C/C++ • Sensor Integration • Flight Controls Tuning • Machine Vision • Rapid Prototyping

Citadel Global Data Open - 3rd Place 2021

Python • Regression Analysis • Economic Simulation •Data Analysis • Data Scraping and Visualisation

Citadel West Coast Data Open - 1st Place 2021

Python • Regression Analysis • Clustering • Data Analysis • Data Scraping and Visualisation

Wireless Stable Hover Quadcopter - Capstone 2022-2023

MATLAB • Simulink • Wireless Power Transfer • Electrical design

Panoptic Segmentation for Neutrino Decay - Capstone 2021

Python • PyTorch • Deep Learning • Data Exploration and Analysis

SKILLS

Programming: Python (OpenCV, Scikit, Tensorflow, Keras, PyTorch), C++, C, Julia, Java

Software/Applications: Vector CAN tools, PCAN, MATLAB, ROS, OpenAI Gym, Microcontrollers

Electromechanical: PCB Design, Electrical Prototyping, soldering, Solidworks, AutoCAD, Machining, Rapid Prototyping