

HAOCHENG ZHANG

✉ haocheng.zhang@uwaterloo.ca in haochengzhang0 🌐 haochengZhang

SKILLS

Python, Matlab, Simulink, Battery Modeling, Git, Scikit-Learn, Tensorflow, Pandas, Microsoft Azure

SUMMARY

- 2+ years of experience with data processing, programming, and visualization
- Self starter and driven to learn; working knowledge of deep learning libraries
- Strong leadership and communication skills through team management and cross-team projects
- Excellent time management skills through balancing extracurricular with school work
- Fine attention to detail gained with laboratory and hazardous material experience

EXPERIENCE

Data Science Intern

Jan. 2020 to Apr. 2020, Jan. 2021 to Aug. 2021

Lixar IT.

- Developed forecasting models using FbProphet for energy trading
- Designed content based recommendation system using Tensorflow for improving energy sales
- Designed binary classification using Scikit-Learn to predict windshield repair sales

Hybrid Vehicle Controls Team Lead

May 2019 to Current

University of Waterloo EcoCAR Team

- Re-engineered production SUV into a P4-Parallel-through-the-road hybrid electric vehicle
- Team lead responsible for vehicle supervisory control and battery component control
- Placed 5th out of 11th in a student competition sponsored by General Motors and the US DOE ([link](#))
- Recognized in dSpace publication for overcoming COVID related challenges ([link](#))
- Conducted sensitivity analysis on vehicle plant model to determine effects on vehicle performance
- Developed vehicle state machine and component communication interfaces

Electrochemical Research Assistant

Jan. 2018 to Apr. 2018, Sept. 2018 to Dec. 2018

University of Waterloo

- Developed fault detection algorithm for a commercial Battery Management System sensitive to 0.15% error in MATLAB
- Constructed equivalent circuit models for voltage and state-of-charge models in MATLAB
- Parameterized cells using hybrid pulse power characterization (HPPC) to obtain model fitting data

PROJECTS

Battery Plant Model

Sept. 2019

- Led equivalent circuit model and battery controller model development for hybrid design team
- Achieved 47% error (RMSE) reduction from existing linear resistor model
- Parameterized cell model using hybrid pulse power characterization
- Verified model using standard drive cycles

EDUCATION

University of Waterloo

May 2022

Bachelor of Applied Science Chemical Engineering

Fall 2018 Research Award Recipient

Winter 2017 Dean's List