HAOCHENG ZHANG

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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 Scientist Intern Jan. 2020 to Apr. 2020, Jan. 2021 to Aug. 2021
Lixar IT.

- Designed content based recommendation system using Tensorflow
- Developed forecasting models using Prophet and Greykite for energy trading
- Designed binary classification using Scikit-Learn to predict windshield repair sales
- Conducted sensitivity analysis to optimize sale probability

Hybrid Vehicle Controls Team Lead May 2019 to Current
University of Waterloo EcoCAR Team

- Team lead responsible for vehicle supervisory control and battery component control
- Placed 5th out of 11 teams 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

- Partnered with industry to integrate fault detection algorithm into a commercial Battery Management System
- Designed and presented novel fault detection algorithm sensitive to 0.15% of 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

- 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 Recipent
Winter 2017 Dean's List