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

- Developed forecasting and anomaly detection models for energy trading
- Designed content based recommendation system using universal sentence encoder for improving energy 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)
- Developed vehicle state machine and component communication interfaces
- Conducted one-at-a-time sensitivity analysis on vehicle model to determine effects on vehicle performance

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 Recipent
Winter 2017 Dean's List