LANG WU

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PROFILE

- 5 years of experience in data analysis and machine learning with Python, R and MATLAB
- Skilled in statistic modeling and experiment design
- Highly energetic, self-motivated and results-driven

EDUCATION

University of Arizona, Tucson, AZ
- Ph.D. in Systems and Industrial Engineering, GPA: 3.92/4.0   May 2023
- M.S. in Statistics and Data Science, GPA: 4.0/4.0   Dec 2022

University of Electronic Science and Technology, Chengdu, China
- B.Eng. in Industrial Engineering, GPA: 3.89/4.0   Jun 2017

SKILLS

Languages:	Python, R, Matlab, Github	**Database:**	MySQL
Data Wrangling:	NumPy, Pandas, Scipy	**NLP:**	TensorFlow, Pytorch
Machine Learning:	Scikit-learn, Keras, Tensorflow	**Data Visualization:**	Tableau, R
Statistics:	Bayesian theory, A/B testing		

PROFESSIONAL EXPERIENCE

Battery Health Management in Connected Environment   Feb 2020 - Feb 2022
- Designed a battery-powered wireless sensor network using Simulink to detect impact force location
- Used adaptive control of duty cycling strategy and load allocation to cluster battery end-of-life time
- Reduced maintenance cost substantially and extended twice network lifetime while keeping 95% detection accuracy
- Adopted surrogate-based methods for black-box optimization

Reliability-Centered Predictive Maintenance Scheduling   Sep 2017 - Dec 2018
- Developed a cost-effective adaptive sequential predictive maintenance policy for degrading systems
- Integrated the time-to-event data and degradation data using a Cox proportional hazard model
- Achieved lower average cost rate and fewer failure numbers than time-based maintenance
- Sped up the simulation using an adaptive sampling strategy and Bayesian Optimization

DATA SCIENCE PROJECTS

Bandgap Predictions - Classification and Regression   Dec 2019 - Aug 2020
- Proposed a new ensemble method by combining random forest and Gaussian Process (with GP models as leaf nodes) using thousands of experimental data; prediction error improved 35% than SVM and deep neural network
- Identified better or physically interpretable subcategories of the data with larger leaf node size

Stock Price Analysis and Prediction of Digital Currency   Jan 2019 - Dec 2019
- Made exploratory analysis with the dataset, used plotly and seaborn to visualize the fluctuations of stock price, trends of market change, and return on investment
- Trained Gradient-boosted tree, Random Forest regression models, and predicted future stock price changes using sliding windows
- Applied Autoregressive Integrated Moving Average model to make predictions of Bitcoin values

Multi-label Text Classification   Aug 2019 - Dec 2019
- Classified the tweet as labels of eleven emotions that best represent the mental state of the tweeter
- Achieved better performance by stacking 1D CNN and Bidirectional LSTM or GRU layers