Weihao SUN

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EDUCATIONAL BACKGROUND

Cornell University ***Ithaca, United State***
Master of Engineering in Systems Engineering *Ausgust 2024 – May 2025*
University of British Columbia ***Vancouver, Canada***
Bachelor of Science in Statistics | Minor in Data Science *August 2019 – May 2024*
Academic Honors: Faculty of Science Dean's Honor List (Sep. 2020), Outstanding International Student Award (Aug. 2019)

EXPERIENCE

CSCEC International Construction Co., LTD. | *Data Analyst Intern* *June 2024 – August 2024*
- Analyzed purchase data for over 50 construction projects, identifying trends and patterns to optimize procurement processes, resulting in a 5% reduction in costs.
- Reviewed and verified monthly purchase detail calculations totalling over ¥200 million to ensure accuracy and compliance.
- Developed and maintained data dashboards, increasing reporting efficiency by over 30% and supporting decision-making.
- Collaborated with cross-functional teams to simplify the data collection and reporting pipeline, reducing processing time by over 25%.

Triple Eagle Logistics | *Data Engineer Intern* *May 2022 – August 2022*
- Developed, tested, and maintained an internally used automatic bill calculation system.
- Updated and maintained the company database; Analyzed the database structure; designed and modified the structure to cater to different use cases.
- Designed the Microsoft Power Automate pipeline to Use Excel Online to write Office Script to automatically fill in charging rates, amounts, and dates into the daily form.
- Matched and extracted essential information such as tracking numbers and prices from large, noisy data provided by clients for usage by other departments, which improved the working efficiency by over 60 %.

University of British Columbia | *Research Assistant* *November 2021 – April 2022*
***Supervisor**: Maricela Best McKay (Ph.D. at University of British Columbia)*
- Contributed to the Physics Informed Neural Network (PINN) for Battery Modeling Project, aiming to solve partial differential equations of battery modelling to improve current performance.
- Developed and analyzed the PINN model using Julia, fitted the model to existing data to solve positive and negative electrode concentrations with respect to scaled time and particle radius.
- Conducted literature survey on PINN, SPM, and Lithium batteries. Performed battery data cleaning, analyzing, and visualization. Using PyBamm to generate simulated data.

Look4Tutor Inc. | *Part-time Tutor* *November 2023 – Present*
- Taught Math, Computer Science, Statistics, and Data Science classes for university students from UBC and SFU, in both small-sized classes and one-on-one teaching forms.
- Designed personalized class plans and contents catering to individual student needs, resulting in improved understanding and academic performance in complex subjects.
- Evaluated student progress through regular quizzes and assignments, providing constructive feedback and adapting teaching strategies to optimize learning outcomes.

PROJECTS

Forecasting the Demands for Urgent Care Service *July 2023 – February 2024*
- Applied and evaluated advanced machine learning models, including Neural Networks, Time Series models, etc., to predict local emergency department demands.
- Utilized the Hospital Triage Dataset on Kaggle as a starting point, and merged local climate and holiday data as additional feature creations.
- Kept identifying opportunities for adaptation and refinement based on future discussion and feedback from stakeholders.

Classification on Smog Ratings of Cars in the Year 2022 *January 2023 – April 2023*
- Performed early-stage raw data collection via public channels, including National Statistics Bureau, FRED, etc.
- Applied Naïve Bayesian analysis, KNN, and SVN strategies for model construction and autonomous testing.
- Applied classical statistical methods, including confidence and prediction intervals and their calibration to evaluate models.
- Adopted transformers including SVD and PCA for model improvements.

Amusement Park Management System (APMS) *September 2021 – December 2021*
- Developed an amusement park management system from scratch using Django framework.
- Implemented an SQLite database modelling functions on services, employment management, and amusement facilities.
- Designed the user interface of the application with the Bootstrap 4 template.

LANGUAGE & TECHNICAL SKILLS

Programming Languages: **Proficient:** Python, R, SQL; **Familiar:** Java, C++, C#, Julia, Racket.
Frameworks: Django, PyTorch, Flask, Node.js
Developer Tools: Git/Github, Jupyter Notebook
Natural Languages: Mandarin (Native), English (Native-like), French (Beginner)