WEI ZHE LIU

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Experience

Junior Data Engineer | Standard Chartered Bank **Kuala Lumpur, Malaysia** **Aug 2024 - Present**

- Engaged in comprehensive training on data engineering workflow and technologies used in banking systems
- Assisting in the development and maintenance of data pipelines to support business intelligence processes
- Collaborating with global teams to ensure data accuracy and optimize ETL processes for high-performance analytics

Computer Vision Engineer | Purdue University **West Lafayette, Indiana, United States** **Jan 2024 - May 2024**

- Represented Purdue to design a fully autonomous low-profile vessel for AIMM ICC with a focus of computer vision task
- Orchestrated research and creation of a robust dataset for obstacle detection and implemented Python script with YOLOv8 for data pipeline
- Demonstrated technical prowess and contributed to the success of the project, enhancing skills through feedback and collaboration

Data Analyst | nanoHUB.org **West Lafayette, Indiana, United States** **Aug 2023 - Dec 2023**

- Enhanced user experience on nanoHUB, a leading online platform for nanotechnology, through refining the classroom cluster detection system with advanced algorithms.
- Implemented an incremental approach, focusing on early data usage to predict emerging trends in classroom dynamics and proactively identifying behavior patterns for optimized user experience and resource allocation.
- Played a key role in code development, statistical analysis, and data visualization for the clustering algorithm, presenting findings to the team in weekly meeting with mentors.

Projects

Kaggle Bank Lending Prediction

- Participated in a community Kaggle competition focused on making lending (binary classification) for a bank, ranked 12th place among a total of 130 classmates
- Conducted data exploration and cleansing for modeling, including handling missing values, removing outliers, and encoding categorical variables
- Trained and evaluated multiple classification models, including Random Forest, Gradient Boosting, and AdaBoost, using a variety of performance metrics

Senior Design Project- Indiana Corn Yield Predictor

- Created Led the Implementation of machine learning methodologies to forecast state-level corn production, orchestrating the data pipeline encompassing extraction, cleaning, modeling, and refinement phases
- Designed the integration of corn yield, weather, and soil data from diverse sources, ensuring data compatibility and coherence to construct a robust dataset tailored for machine learning training
- Directed a team of five in code development, research, technical report writing, and presentation delivery to mentor, ensuring collaboration throughout the project life cycle

Ant Colony Optimization for Vehicle Routing Problem

- Implemented an Ant Colony Optimization (ACO) algorithm to solve a challenging Vehicle Routing Problem (VRP) involving multiple customers, varied demands, and different vehicle types
- Developed a sophisticated edge selection mechanism considering pheromone levels, heuristic information, and vehicle capacity constraints to construct optimal routes
- Achieved rapid convergence to a near-optimal solution satisfying all hard constrains and minimizing overall delivery costs

Languages and Technologies

- Python, R, GitHub, SQL, Power BI, Java, Roboflow, MySQL, Microsoft Office, ChatGPT, Google Cloud, Docker
- Big Data & Machine Learning: scikit-learn, PyTorch, Keras, OpenCV, Matplotlib, Spark, Hive, Hadoop, YOLOv8
- Data Science pipeline (cleansing, wrangling, visualization, modeling and interpretation)

Education

Purdue University **West Lafayette, Indiana, United States** **Aug 2020 - May 2024**

- Bachelor of Science in Data Science, Class of 2024
- Coursework: Data Mining and Machine Learning, Large Scale Data Analytics, Information Systems, Statistics for Data Science