

WEI ZHE LIU

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Experience

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| Junior Data Engineer Standard Chartered Bank | Kuala Lumpur, Malaysia | Aug 2024 - Present |
| <ul style="list-style-type: none">Engaged in comprehensive training on data engineering workflow and technologies used in banking systemsAssisting in the development and maintenance of data pipelines to support business intelligence processesCollaborating 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 |
| <ul style="list-style-type: none">Represented Purdue to design a fully autonomous low-profile vessel for AIMM ICC, with a focus of computer vision taskOrchestrated research and creation of a robust dataset for obstacle detection and implemented Python script with YOLOv8 for data pipelineDemonstrated 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 |
| <ul style="list-style-type: none">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

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| Purdue University | West Lafayette, Indiana, United States | Aug 2020 - May 2024 |
| <ul style="list-style-type: none">Bachelor of Science in Data Science, Class of 2024Coursework: Data Mining and Machine Learning, Large Scale Data Analytics, Information Systems, Statistics for Data Science | | |