BRITNEY SAW YU XUAN

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EDUCATION

National University of Singapore (NUS) Aug 2021 – June 2025
Bachelor of Science (Hons) in Data Science and Analytics
• Recipient of NUS Merit Scholarship, Dean's List AY22/23 (Top 5% of cohort)

Eindhoven University of Technology (TU/E), Netherlands Feb 2024 – July 2024
Student Exchange Program in Mathematics and Computer Science
• Completed modules in Data-Driven AI, Time Series Forecasting and Financial Mathematics
• Researched stochastic processes to model emergency response and optimize deployment

WORK EXPERIENCE

Data Science Intern, Holmusk Aug 2024 – May 2025
• Improved SQL-based query performance and user experience by optimizing over 100 Python and R functions within Holmusk's healthcare analytics platform
• Developed and automated technical documentation using shell scripting and Sphinx library, enhancing maintainability across the product platform and Github Wiki
• Applied SHAP and DALEX frameworks to deliver model interpretability insights, empowering stakeholders to make informed, data-driven decisions in healthcare research and business
• Refactored internal data pipelines using PySpark API on Databricks to improve scalability
• Streamlined internal workflows, reducing package setup time by over 50% and boosting operational efficiency for development teams

PROJECTS

Fraud Detection in Telecom Networks using Graph Neural Networks Feb 2025 - Apr 2025
• Designed a GNN-based fraud detection system on multi-million record telecom data during a collaborative 8-week hackathon, processing and engineered graph-based features to model user interactions and detect fraudulent behavior
• Conducted exploratory data analysis (EDA) and anomaly detection to identify fraud patterns across voice calls, SMS and application usage, which informed graph construction for modeling
• Tuned ensemble models (CARE-GNN) to achieve high classification performance (AUC 0.9534) for fraud prediction

Carpark Demand Simulation, NUS Aug 2023 – Nov 2023
• Led a 4-person team to build and containerize an interactive R Shiny application using Docker, integrating a discrete-event simulation model to optimize allocation across 6 NUS carparks
• Created a simulation dashboard with data visualization to support agile operational decision-making for sudden surges in parking demand
• Presented data-driven recommendations and translated technical insights into actionable parking system optimization strategies to non-technical stakeholders for decision making
• Delivered a user-friendly and visually appealing UI, earning positive feedback from stakeholders

SKILLS

• Programming Languages and Tools: Python, R, SQL, Git
• Data Visualisation: R Shiny, Tableau
• Machine Learning: Supervised/Unsupervised learning, ML applications, Model Explainability
• Statistical Methods: Multivariate Analysis, Time Series, High Dimensional Data Techniques