

EDUCATION

National University of Singapore

Aug 2024 - Jul 2028 (Expected)

Bachelor of Engineering (Honours), Industrial and Systems Engineering

- Second Major in Data Analytics
- GPA: 4.60/5.00 (Highest Distinction)

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, R, SQL, VBA, JavaScript, HTML, CSS
- **Data Science & Machine Learning:** NumPy, pandas, scikit-learn, PuLP
- **Data Engineering & Database:** PostgreSQL, Elasticsearch, Apache Spark, Apache Kafka, Apache Airflow, Firebase Firestore, SharePoint
- **Data Visualisation:** Power BI, Kibana, matplotlib, seaborn, plotnine
- **Cloud & DevOps:** AWS EC2, AWS Lambda, Docker, Git, Conda, Pip
- **Web Development:** React.js, Node.js, Express.js, Axios, Render
- **Simulation & Modelling:** Stella Architect, @Risk, Sensit

PROJECTS

AURA – Audio Understanding and Reorganisation Application

May 2025 - Aug 2025

- Built full-stack web application using React.js, Node.js, and Express.js with OAuth 2.0 authentication, with Firebase Firestore as database, implementing Meyda.js and Web Audio API to extract audio from Spotify tracks for intelligent playlist reorganisation
- Deployed production application on Render enabling automated playlist curation based on analysed audio characteristics with integration to Spotify and Deezer APIs

Optimising Maritime Exports from Singapore to the US West Coast

Oct 2025 - Nov 2025

- Developed multi-product transshipment linear programming model using Python PuLP to minimise shipping costs across multiple US West Coast ports and inland destinations, achieving optimal routing solution

Assessing the Financial Viability of F1 in Singapore

Jan 2025 - Apr 2025

- Conducted financial analysis between F1 and Formula E using NPV and cash flow modelling, Monte Carlo simulations via @Risk, and sensitivity analysis with Sensit, applying Analytical Hierarchy Process for non-financial factor evaluation, demonstrating F1 as the dominant option

HDB Flat Resale Decision Tool

Oct 2024 - Nov 2024

- Built Excel-based decision support tool with VBA interface, implementing multiple linear regression model based on 120,000+ historical transactions, utilising CPI forecasting via Solver, to help HDB flat sellers estimate fair resale prices

EXPERIENCE

Singapore Armed Forces

Feb 2022 - Aug 2024

Staff Officer (Lieutenant), BMTC School 1

- Awarded Commander BMTC Coin and two Commanding Officer Coins in recognition of outstanding performance and leadership
- Directed manpower planning, training coordination, and logistics operations for BMTC School 1, optimising resource allocation across multiple concurrent training cycles
- Held key operational appointments for 5 Graduation Parades, coordinating up to 500 working personnel, 3,000 recruits, and 15,000 guests each event

COMPETITIONS

Army M365 Hackathon 2024 – Finalist

- Developed low cost digital e-ticketing system for BMTC Graduation Parade using Power Automate flows, with SharePoint, Forms and email integration, using Power Apps for scanning guest QR codes and monitoring dashboard, improving efficiency and sustainability over existing paper-based process