

SIM WEN HAO

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SUMMARY

Penultimate-year NUS Business Analytics undergraduate with experience in machine learning, forecasting, AI and full-stack development. Built internal tools for manufacturing, safety and technical support.

EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE

Expected Dec 2027 / Jan 2028

Bachelor of Science in Business Analytics, School of Computing

SINGAPORE POLYTECHNIC

Jan 2019 - Dec 2022

Diploma with Merit in Facilities Management | Graduated 2nd in cohort

WORK EXPERIENCE

SHIMANO SINGAPORE PTE. LTD.

Jun 2026 - Present

Digital Technology / Data Analysis Intern

- Rebuilt a Python machine-learning pipeline for 50M+ CNC telemetry records. Used cycle-grouped validation to prevent leakage and XGBoost to reduce normalised RUL MAE by 15% (0.0748 to 0.0634). Also found that the available target tracked counter progress rather than direct tool wear.
- Tested shipment and incoming-order forecasts across 54 rolling-origin windows and 16,000+ rows. A weighted method beat the best tested ML alternative (39.2% vs 41.6% WAPE), while a 12-month lookback cut incoming-order WAPE from 29.13% to 27.09%. Automated SharePoint-to-Fabric ingestion.
- Built and deployed an internal RAG assistant for technical and warranty support using Flask, React and Qdrant. Added hybrid keyword/semantic search, SSO, scheduled ingestion and 13 test suites, with fallbacks for unsupported questions.
- Built and deployed a multimodal AI tool for safety documentation using React, FastAPI, Azure OpenAI and openpyxl. It turns before/after photos into editable cause analyses and formatted Excel workbooks, cutting typical drafting time from 20-30 minutes to under 5 minutes.
- Built an engineering-drawing extraction app that reads and cross-checks 12 measurements per drawing, supports user review, and writes confirmed results to SQL Server and Excel. Added 43 automated tests and Bamboo CI/CD.

ACCENTURE

Jun 2025 - Aug 2025

System Deployment Associate

- Supported the nationwide rollout of the National Billing System by diagnosing user issues, tracking incident patterns, escalating technical problems and sharing recurring usability feedback with rollout teams.

MINDEF (SINGAPORE ARMED FORCES)

May 2022 - May 2024

Signal Operator - Full-time National Service

- Coordinated platoon-level signal operations and task allocation, and served as the link between regulars and NSmen when resolving operational issues.

SELECTED PROJECTS

ALONGSG

2026 - Present

Personal Project | Next.js, TypeScript, FastAPI, Python, SQLite/FTS5

- Built a Singapore public-transport errand planner that finds useful stops along an existing journey and ranks them by added travel time, walking and transfers.
- Developed one- and two-stop optimisation, place search, candidate pruning, route caching and OneMap routing; the full working snapshot passed 188 backend tests.

CRITTER HEIST

2026 - Present

Personal Project | Luau, Roblox

- Built server-authoritative systems for an 8-player Roblox game, with persistent progression, crash-tolerant asset transfers and server-side validation; tested snapshot passed 27/27 multiplayer QA checks.

SKILLS

Programming: Python, SQL, Java, R, JavaScript/TypeScript | **Languages:** English, Chinese

Data & ML: pandas, scikit-learn, XGBoost, Machine Learning, Forecasting, Statistical Modelling

AI & Web: RAG, Qdrant, Azure OpenAI / OpenAI APIs, React, Flask, FastAPI, REST APIs

Platforms & Tools: Microsoft Fabric, SQL Server, Git, Bamboo CI/CD, Tableau, Excel, Power Automate