Lo Zhi Hao

zhihao_lo@u.nus.edu (Preferred) | +65 80237584 | https://lordzhihao.vercel.app/ | https://www.linkedin.com/in/zhi-hao-lo

Aspiring Data Scientist, Writer, Investor; 1+ years of experience in Predictive Analytics and Machine Learning

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EDUCATION

National University of Singapore <div align="right">Singapore, Singapore</div>
BSc. in Business Analytics   CAP: 4.33 / 5.0   Aug, 2021 − Dec, 2025 (Expected)

- **Academics**: Second Major in Economics & Specialized in Machine Learning-based Analytics
- **Awards**: Certificate of Distinction in Analytics Techniques Knowledge Area, Financial Analytics Specialisation & Machine-Learning Analytics Specialisation, ASEAN Undergraduate Scholarship

WORK EXPERIENCE

Data Scientist Intern <div align="right">Singapore, Singapore</div>
Wholly Greens Pte. Ltd.   Jan, 2025 − May, 2025 (Expected)

- Developed object identification and classification model using YOLO model and CVAT platform, creating a robust data pipeline to accurately identify objects retrieved by users from vending machines.
- Conducted time series analysis to perform demand forecasting for over 40 SKUs across 400+ vending machine locations, reducing waste and improving profit margins.
- Delivered PowerBI dashboard to visualize forecasted demand for each vending machine and SKU, enabling accurate daily restocking decisions and optimizing inventory management.

Data Analyst Intern <div align="right">Singapore, Singapore</div>
Azure Tide Holdings Pte. Ltd.   Aug, 2024 − Jan, 2025

- Utilized Python to integrate with 5+ APIs (CoinMarketCap, CoinGecko, Debank, Binance, Blockchain.com) to collect and process data for over 20+ cryptocurrencies and wallets
- Automated daily updates of cryptocurrency prices and conducted due diligence on counterparties' financial situations, reducing manual workload by 90% per day and improving data accuracy
- Streamlined the distribution of financial and market updates to 10+ stakeholders via Sheety, Slack, and Telegram APIs, reducing the update time by 80% and ensuring real-time communication

Data Science Intern <div align="right">Singapore, Singapore</div>
Jurong Town Corporation (JTC)   May, 2023 − Aug, 2023

- Conducted data cleansing, preprocessing, feature engineering, and developed machine learning models to accurately predict the occupancy rate of sub-segments within the industrial property sector
- Improved Mean Absolute Error of model predictions to 0.21% quarterly hence reducing the number of occupancy rate surveys needed by the company from 4 to 2 times per year
- Identified and visualized key factors that significantly contribute to higher premiums observed in both food and generic industrial space

PROJECTS

Bon-AIPetit - AI Recipe & Meal Plan Recommender <div align="right">Jan, 2025 − Mar, 2025 (Expected)</div>
Gamuda AI Academy

- Developed web application using Vue.js and Vuetify for the frontend, and FastAPI, Google Cloud Services, PostgreSQL, and MongoDB for the backend.
- Utilized Vertex AI, MongoDB, and Gemini Pro to implement a RAG (Retrieval-Augmented Generation) architecture for accurate and personalized recipe recommendations.
- Implemented object detection and OCR models to identify ingredients from pictures and receipts, enabling precise recipe recommendations based on available ingredients.
- Integrated meal planning features considering user preferences and dietary restrictions, enhancing user experience and personalization.

Capstone Project: Cargo Permit Data Extraction Automation <div align="right">Aug, 2024 − Nov, 2024</div>
The Coca-Cola Company

- Automated process of cargo permit data extraction using Computer Vision, enhancing processing efficiency and accuracy
- Engineered synthetic data generation with cv2 and conducted data annotation via Roboflow, increasing training data by 80% and enhancing model training quality through improved dataset reliability
- Fine-tuned YOLOv8 model for bounding box identification and implemented advanced OCR solutions (Pytesseract, Doctr, PaddleOCR), resulting in 99% precision in text extraction and streamlined data management for over 700 cargo permits

LEADERSHIP EXPERIENCE

NUS Business Analytics Consulting Team <div align="right">Aug, 2023 − Aug, 2024</div>
Vice-President (Internal) & Senior Analyst

- Led a team of 4 in delivering a data science project to accurately forecast crop prices 1-3 days ahead for Sarisuki, a startup in the Philippines. Performed data analysis, feature engineering, and developed models using ARIMA, SARIMA, VARIMA, LSTM, and Transformers for 19 crops, with backtesting via MAE and MAPE metrics
- Managed a publicity team of 4 to oversee social media platforms (Instagram, LinkedIn, Telegram), posting events and updates for over 300 followers on Instagram and LinkedIn, and 80 members on Telegram

SKILLS

- **Tools & Skills**: Python (Pandas, Numpy, Scikit-Learn, Pytorch, Airflow, Selenium, Streamlit, Bs4), R, SQL (MySQL, PostGreSQL), VueJs, ReactJs, PowerBI (Power Query, DAX), UIPath, Microsoft Excel, Google Cloud PLatform, Vertex AI