

## Zhi Hao, Lo (Jason)

zhihao\_lo@u.nus.edu (Preferred) | +65 80237584

Website: <https://lordzhihao.vercel.app/> | LinkedIn: <https://www.linkedin.com/in/zhi-hao-lo> |

Medium: <https://medium.com/@lozhihao> | GitHub: <https://github.com/LordZhiHao>

Aspiring Data Scientist with 1+ years of experience in AI development, predictive analytics, and machine learning; passionate writer and investor.

---

### EDUCATION

#### National University of Singapore

Singapore, Singapore

*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, Certificate of Distinction in Financial Analytics Specialisation, Certificate of Distinction in Machine Learning-based Analytics Specialisation, ASEAN Undergraduate Scholarship

### WORK EXPERIENCE

#### Munich Management Pte. Ltd.

Singapore, Singapore

*Data Science Intern*

May, 2025 (Expected) – Dec, 2025 (Expected)

- TO BE DETERMINED

#### Wholly Greens Pte Ltd.

Singapore, Singapore

*Data Scientist Intern*

Jan, 2025 – Mar, 2025

- Finetuned object detection models using YOLOv8 model on GCP to create a robust data pipeline to accurately identify objects retrieved by users from vending machines.
- Conducted data annotation on CVAT platform for 5000+ object images from 40+ SKUs for model training and validation.
- Researched on data pipeline to perform image clustering and remove duplicated image datapoints using FastDUP and alternative clustering methodologies (Clustering on YOLOv8 embeddings, etc).

#### Azure Tide Holdings

Singapore, Singapore

*Data Analyst Intern*

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
- Performed data analysis, cleaning and visualization using Excel on the portfolio of counterparties, ensuring smooth credit decision-making process
- 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
- Leveraged Python scripts to provide real-time market insights, increasing reporting efficiency and enabling faster decision-making by 30%

#### Continental AG

Singapore, Singapore

*Data Analytics Intern*

Jan, 2024 – Jun, 2024

- Designed and implemented a PowerBI dashboard to compare and filter similar projects, aiding project managers in identifying past project details and costs
- Proposed and executed a redesign of the data relationships between 20+ tables in the project details management dashboard, streamlining data flows and improving efficiency
- Employed PowerQuery for data cleaning and manipulation, and leveraged DAX measures to calculate key metrics (mean, median, standard deviation) for real-time project cost management
- Enhanced data representation by performing data manipulation and proposing new visuals for the project attributes dashboard, improving clarity and insight into project details
- Developed a dynamic organizational chart for manpower arrangement using Mendix, increasing human resource management efficiency through improved workforce visibility and planning

#### Jurong Town Corporation (JTC)

Singapore, Singapore

*Data Science Intern*

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

## **School of Computing, National University of Singapore**

*Teaching Assistant - IS1108 Digital Ethics and Data Privacy*

Singapore, Singapore

Jan, 2023 – Dec, 2023

- Facilitated a 25-student tutorial class to conduct discussion and learning on computing ethics and data privacy challenges in contemporary culture
- Collaborated with Teaching Assistants to grade and review assignments for course participants

## **PROJECTS**

### **Consultancy Project: Data Analyst Agent Development**

Mar, 2025 – May, 2025 (Expected)

*Rank Possible Sdn. Bhd.*

- Developed an MVP for a data analyst agent to help marketing teams extract insights from BigQuery without requiring SQL or coding expertise.
- Built a full-stack web app using React.js and Recharts for frontend visualizations, and FastAPI to connect backend services.
- Integrated Vanna AI to implement a RAG-reinforced text-to-SQL agent, leveraging historical query pairs to improve output accuracy over time.
- Queried and analyzed two client-provided BigQuery tables (20+ columns each) using natural language inputs from non-technical users.
- Integrated Gemini-2.0-flash with Chain-of-Thought prompting to analyze queried dataset outputs, data cards, and descriptive statistics, generating chart suggestions, data insights, and recommended next steps.
- Employed MongoDB for vector storage in the RAG pipeline and used Python for backend orchestration and data parsing.
- Deployed an active demo website for client testing and iteration; continuously refining based on user feedback.

### **Personal Project: Portfolio Website & AI Chatbot**

Jan, 2025 – Present

*Myself: <https://lordzhihao.vercel.app/>*

- Designed and deployed a personal portfolio website using React.js and Vercel to showcase projects, education, and work experience.
- Integrated EmailJS to enable automated email responses for visitor inquiries, enhancing interactivity and outreach.
- Built and deployed an AI-powered personal chatbot using a RAG architecture with FastAPI backend, Pinecone vector store, and Gemini-2.0-flash as the LLM.
- Engineered conversation memory with a rolling window of 10 messages to maintain chat context and improve response relevance.
- Developed the chatbot to answer questions about personal background, projects, and experience, offering an interactive way for visitors to explore the portfolio.

### **GAIA Project (1st Runner Up): Bon-AIPetit – AI-Powered Recipe & Meal Planner**

Jan, 2025 – Mar, 2025

*Gamuda AI Academy*

- Led a team of 5 to design and deploy an AI-powered web application that transforms leftover ingredients into personalized meals, promoting sustainability through smart technology.
- Implemented a RAG-based system using Vertex AI Gemini-2.0-flash, MongoDB (vector embeddings), and Cloud SQL to power recipe generation, personalized meal planning, and a conversational Chef-bot.
- Built a full-stack solution with Vue.js + Vuetify on the frontend (Firebase Hosting) and Python (FastAPI) on the backend (GCP Cloud Run); managed CI/CD using GitHub Actions.
- Integrated ensemble models using Google Cloud Vision API to extract ingredients and text from grocery receipts and images, reducing false positives in ingredients detection and OCR.
- Enabled three core features: (1) Recipe Generator from ingredient photos, (2) Smart Meal Planner with nutritional tracking and grocery list, and (3) AI Chef-bot with context-aware chat.

### **Capstone Project: Cargo Permit Data Extraction Automation**

Aug, 2024 – Nov, 2024

*The Coca-Cola Company*

- Led the automation of cargo permit data extraction using Python, OpenCV, and YOLOv8, reducing manual processing time by 30% and boosting workflow efficiency.
- Generated synthetic data with cv2 and annotated 700+ permits using Roboflow, increasing training data by 80% and improving object detection robustness.
- Fine-tuned YOLOv8 for bounding box detection and implemented OCR pipelines with Pytesseract, Doctr, and PaddleOCR, achieving 99% text extraction precision.

### **Consultancy Project: Crop Demand Forecasting & Time Series Analysis**

Jan, 2024 – May, 2024

*Sarisuki*

- Led a team of 4 to develop a short-term crop price forecasting system for 19 agricultural products using Python.

- Engineered features and performed time series analysis using ARIMA, SARIMA, VARIMA, LSTM, and Transformer models.
- Evaluated model performance via MAE and MAPE, conducting backtesting to identify optimal models per crop and time horizon (1–3 days ahead).
- Utilized Python & Jupyter Notebooks for experimentation and documentation throughout the modelling pipeline.
- Presented a final technical report to Sarisuki, delivering actionable insights for pricing strategy and supply chain optimization.

### **MISCELLANEOUS PROJECT EXPERIENCE**

- **BrainHack 2023 - SeeTrue Category:** Developed deep learning models in NLP & CV to classify fake social media users, achieving an overall accuracy of 81% and a top 10 overall rankings
- **SDS Datathon 2024 - SingLife Analytics & Machine Learning:** Developed machine learning models & performed visualization & analytics to classify fraudulent SingLife insurance claims, achieving an accuracy of 95% & f1-score of 35%
- **EasyIntern - Internship Recommendation System:** End to end website embedded with a job recommendation system to allow internship seekers to apply for internships with ease

### **LEADERSHIP EXPERIENCE**

#### **NUS Business Analytics Consulting Team**

Aug, 2023 – Aug, 2024

*Vice-President (Internal) & Senior Analyst*

- Led a consultancy project (see Projects) under BACT to deliver short-term crop price forecasting for Sarisuki.
- 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
- Collaborated with Alteryx and Xopa.ai to organize sharings, talks, and hackathons for club members and analysts
- Facilitated weekly data analytics events, coordinating with external parties to deliver machine learning and data analytics sessions for 80+ members

#### **NUS Pioneer House**

June, 2022 – June, 2024

*PCT Facilitator, Peer Mentor & Cooking Interest Group Leader*

- Mentored 15 residents on academics, campus life, and personal development as part of the Peer Mentorship Programme.
- Organised and hosted events for up to 70 residents to strengthen engagement, inclusivity, and community bonding.
- Served as Orientation Group Leader (OGL) for PH Freshman Orientation Camp 2022/2023, leading a group of incoming students through onboarding and team-building activities.
- Facilitated two-way communication between residents and management by relaying feedback and advocating for resident needs to improve hostel living experience.
- Oversaw performance of 7 student leaders under the PCT programme, ensuring smooth execution of weekly activities and effective peer leadership.
- Led 12 biweekly cooking events for up to 20 participants per session; planned menus, managed ingredient preparation, and handled participant signups.
- Collaborated with Monofood (NGO) to organise an “Ugly Food” event promoting sustainability and food waste reduction.

#### **NUS Prince George’s Park Residences (PGPR)**

Aug, 2024 – Dec, 2024

*Badminton Sports Clinic Leader*

- Organised and led 8 biweekly badminton clinics for PGPR residents, with 10–12 participants per session.
- Managed court bookings, equipment preparation, and hydration logistics to ensure smooth event execution.
- Instructed beginner-friendly badminton drills, techniques, and rules, catering to newcomers and casual players.
- Led warm-up and cool-down routines while fostering an inclusive and active community environment through sports.

### **SKILLS**

- **Programming Languages:** Python, R, SQL, Java, JavaScript, HTML, CSS
- **Frameworks & Libraries:** (JavaScript) VueJs, Vuetify, ReactJs, Firebase, (Python) Pandas, Numpy, Sklearn, Pytorch, Ultralytics, LangChain, Airflow, Selenium, Bs4, Streamlit, FastAPI, Pydantic
- **Analytics Tools:** PowerBI, Tableau, Excel, UiPath, Alteryx, Figma, MySQL, PostgreSQL, Power Query, DAX, Docker, Render, Vercel, MongoDB, Pinecone, (Google Cloud Platforms) Cloud SQL, Cloud Run, Firebase, BigQuery, Vertex AI
- **Certifications & Courses:** RPA Developer Foundations (UiPath), Data Science & Machine Learning Fundamentals (Corporate Finance Institute), Gamuda AI Academy Graduate
- **Languages:** Fluent in Spoken English, Mandarin, Malay; Competent in Written English, Mandarin, Malay