ETHAN NG WEN XIAN

ngwenxian@yahoo.com | +65 8249 0057 | Singapore | https://www.linkedin.com/in/ngwenxianethan/

SUMMARY

Analytical and detail-oriented student pursuing a Diploma in AI & Analytics with a strong foundation in data analytics, Python, SQL, and statistical modeling. Proficient in the end-to-end machine learning lifecycle, from data engineering and model development to deployment. Eager to apply quantitative skills to derive actionable business insights and contribute to challenging data-driven projects.

ACADEMIC & PERSONAL PROJECTS

Custom CNN for Vegetable Image Classification | Deep Learning Project

- Engineered a custom CNN from scratch in Python, achieving 99.09% test accuracy in classifying 11 types of vegetables.
- Outperformed ResNet50 benchmarks by systematically optimizing the architecture, data augmentation, and input resolutions.

HDB Resale Market Analysis & Policy Recommendation | Data Visualization Project

- Processed and cleansed a dataset of 202,764 HDB resale transactions using Python (Pandas) to ensure data integrity for analysis.
- Developed a 2-dashboard Tableau story with 6 interactive charts to identify key market trends, such as geographic price disparities.
- Extracted actionable insights to propose a 3-tiered policy framework for HDB, targeting overheated markets like Punggol to improve affordability.

Learning Express: Digital Transformation for Vietnamese Artisan | Business & Web Development Project

- Identified critical pain points (non-functional website, weak market differentiation) through on-site consultation with a Vietnamese artisan.
- Led a full website redesign to be modern yet authentic, integrating storytelling videos, a downloadable catalog, and a customer service chatbot.
- Solution successfully met the owner's needs and won 2nd Prize at the Learning Express Program Hackathon 2025.

Glove Royale: Full-Stack Boxing Simulation Game | Back-End Development Project

- Architected a full-stack web application with a Node.js back-end, MySQL database, and a modular RESTful API for all CRUD operations.
- Implemented secure user authentication using JWT and bcrypt password hashing.

Generative AI: Conditional GAN for Letter Generation | Deep Learning Project

- Developed a conditional Deep Convolutional GAN (CDCGAN) to generate synthetic handwritten
- letters across 16 classes. Engineered a novel evaluation pipeline using a separate CNN to validate image quality, achieving a 98% accuracy score.

GenAI Website Architect: Prompt-to-Website Application | Personal Project
- Leveraged Hugging Face generative AI tools to rapidly prototype a multi-section website from a single natural language prompt.
- Manually re-engineered and refined the generated HTML/CSS output to create a polished, responsive, and visually appealing final design, enhancing the user experience.

ENTREPRENEURIAL EXPERIENCE

Founder & PC Reselling Specialist | Carousell Business | Mar 2025 – Present
- Formalized over a decade of personal trading experience by establishing a PC reselling business on Carousell, generating over $10,000 in revenue.
- Analyzed real-time market data to identify undervalued assets, achieving an average markup of 150% per unit.
- Managed the full sales cycle, resulting in over 150 positive customer reviews.

SKILLS
- Technical Skills: Python (Pandas, NumPy, Scikit-learn), SQL, Power BI, Data Visualization (Matplotlib, Seaborn), Machine Learning, Deep Learning, Data Engineering, Statistics, Agile MLOps
- Soft Skills: Analytical Thinking, Problem-Solving, Communication & Data Storytelling, Collaboration, Attention to Detail

EDUCATION

Diploma in Applied AI & Analytics | Singapore Polytechnic | Expected April 2027
- Cumulative GPA: 3.82 / 4.0
- Relevant Coursework: Data Engineering, Data Visualisation, Deep Learning, Programming for Data Analytics, Statistics for Data Science, Mathematics for AI, Data Structures & Algorithms

ADDITIONAL INFORMATION

Languages: English (Fluent), Chinese (Conversational)

Certifications:
Generative AI Concepts, Deep Learning with Keras, Supervised Learning with scikit-learn, Data Manipulation with pandas, Data Visualization with Plotly

Awards & Activities:
- Semi-Finalist & People's Choice Award Winner, SP Batey Hackathon
- 2nd Prize in Learning Express Program Hackathon 2025
- Hackathon Participant: NUS Maritime (2025), PolyFinTech100 API

Recipient of Edusave Awards (2017-2023) for consistent academic excellence and leadership, including the Edusave Scholarship (2020) and the EAGLES Award (2019).