Edbert Widjaja

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EDUCATION

The University of Hong Kong   Hong Kong SAR
Bachelor of Engineering in Data Science and Engineering, Minor in Finance   *Aug 2023 – Jul 2027*

- **Cumulative GPA:** 3.76/4.3
- **Awards & Honors:** HKU Belt & Road Scholarship (2023-2027), ISM-HK 2024 Case Competition Semi-Finalist(Top 5%), Alibaba International 2024 Global E-Commerce AI Hackathon Semi-Finalist(Top 4%); Generative AI Hackathon for SDG 2024 Finalist
- **Coursework:** Computer Programming, Data Science, Data Structures & Algorithms, Probability & Statistics, Machine Learning

WORK EXPERIENCE

Migrasia Global Solutions Limited   Hong Kong SAR
Part-Time Data Scientist Intern   *Jan 2025 – Present*

- Developed an **NMT** system by fine-tuning **Gemma2 (SEALION)** and **OpenAI's o1-mini** with **DeepSpeed**, **QLoRA**, **Bitsandbytes**, **Transformers** and **PyTorch**, optimizing LLM by up to **70%**, while performing **MT** evaluation with **BLEU**, **ROUGE** and **BERT** scores
- Utilized **Charts.js**, **Embedded HTML** and **PowerBI** on **Wix** to display dynamic charts and dashboards on official company website
- Assisted in the production of a full-stack **RAG-based Agentic AI** Grant Application Writer, employing **OpenAI's GPT-4o** and **text embedding** models, **LlamaParse**, **ChromaDB** vector database, **LangChain** and **Django** for the backend

Chinotech International Limited   Hong Kong SAR
Data Scientist Intern   *Jan 2025 – Jan 2025*

- Performed mass data migration to alternative **ThingsBoard** via **Shell Script, HTTP REST API** and **MQTT** to build IoT dashboards
- Implemented supervised(**Prophet**, **SVM**, **RF**) and unsupervised(**K-Means**, **DBSCAN**) algorithms to predict water pipe blockages and toilet utilities, performing techniques such as **PCA**, **LLE**, **t-SNE** and **GridSearchCV** to raise application efficiency by **10%**
- Contributed to the local and cloud hosting of **Trendz Analytics** with **AWS EC2** and **Docker**, connected to a **PostgreSQL** database

PROJECTS

Stock Navigator | Source Code   *React.js | Django |Pandas | Plotly.js | AutoTS | LangChain | BeautifulSoup*

- Full-stack application to display real-time interactive stock charts and dashboard using Plotly.js and Yahoo Finance API as well as AutoTS(Prophet, ARIMA) for forecasting feature and a personalized chatbot to handle stock queries
- Built RAG QA agent with FLAN-T5 base LLM, LangChain and FAISS vector database, using web-scraped stock Knowledge Base
- Utilized Postman API for validation of API endpoints and Django REST APIs for RAG and Plotly.js integration to React

Grade Your IELTS! | Source Code   *TensorFlow | Keras | PyTorch | Dash | Pandas | Scikit-Learn | Transformers*

- Implemented ML algorithms with TF-IDF Vectorizer, created custom Neural Networks by adding an untrained head on top of BERT with Keras, and performed fine-tuning of pre-trained DistilBERT, RoBERTa, BERT, DeBERTa v3 and ALBERT v2
- Employ R^2 and MAE metrics to deploy best performing architecture as interactive IELTS grading application with Dash Framework

SignBOT – Inclusivity for the Deaf | Source Code   *TensorFlow | LabelImg | OpenCV | Unsloth | Pandas | LoRA | PyTorch*

- Performed open-source labelling and collection of image dataset and fine-tuning of pre-trained SSD Mobile Net v2 with TensorFlow Object Detection API for real-time Sign-To-Text translation feature
- Utilized Speech Recognition API, OpenCV and NLP Toolkits for Text-to-Sign feature, producing video sign language outputs
- Performed fine-tuning and optimization of pre-trained LLaMa-3.1 on QA dataset with Unsloth and QLoRA for chatbot feature

SKILLS

- **Technical:** Python; C++; C; Shell Script; Git; R; SQL; HTML; CSS; JavaScript (React); REST APIs; Microsoft Excel; Power BI
- **Extracurriculars:** Executive Committee (Welfare & Publication) at HKU Data Science Association, Hall Event Management Team
- **Languages:** English (Fluent – IELTS 8.0), Mandarin (Basic), Bahasa Indonesia (Native)