Kwang Yang Chia

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Education

National University of Singapore   **Aug 2022 - May 2025**
Bachelor of Science (Honours) in Data Science & Analytics
- Relevant Modules: Data Visualisation (DSA2101) - A+, Artificial Intelligence: Technology and Impact (IT1244) - A, Data Science In Practice (DSA3101) - A-

Working Experience

AI Engineer Intern, SimpleAI   **Jul 2024 - Nov 2024**
- Redesigned embedding system with Pinecone for company-unique prompt extraction, expanding embedding dimensions & metadata handling to improve **retrieval performance by 20%**
- Refactored current retrieval-augmented generation (RAG) systems with existing tech stack (MongoDB, React, Typescript) to **reduce data latency by 15%**
- Refined prompts to improve performance in retrieving information from OCR-extracted accounting invoices
- Migrated prompts to use OpenAI Structured Outputs, guaranteeing JSON schemas via constrained decoding

AI Engineer Intern, Atlas   **May 2024 - Jul 2024**
- Designed a RAG workflow with Query Expansion & Query Rewriting for Atlas, a browser-based Large Language Model (LLM), **cutting input token costs by 40%**
- Optimised LLM methods with model refinement & efficient caching methods to **cut client-side inference time by 69.84% from 12.6 to 3.8 seconds**
- Developed automated scripts to clean HTML files for LLM-enabled code generation to scrape websites efficiently, **reducing token cost by approximately 60%**
- Formulated new context attribution rate & context miss rate evaluation metrics with LLM-as-a-judge responses

Data Science Research Intern, NUS   **Mar 2023 - Aug 2023**
- Co-authoring a paper with Prof Linda Sellou, focusing on analysis & visualisation of 52 answers from a survey of an electrochemistry module to visualise Likert scale responses with matplotlib divergent barcharts
- Conducted t-tests to validate the increase in correctness & confidence in misconceptions in Electrochemistry & analysed Cronbach's Alpha for internal tool consistency in survey sentiments

Technical Skills

- Programming & Database Languages: Python, SQL, JavaScript, React
- Python DS Libraries: NumPy, pandas, matplotlib, seaborn, scikit-learn, Selenium
- Deep Learning & LLMs: Tensorflow, PyTorch, LangChain, OpenAI API, Pinecone, HuggingFace
- Database & Deployment Tools: PostgreSQL, MySQL, Docker, AWS, MongoDB, Flask, Neo4j
- Programming Tools: github, Anaconda, Jupyter Notebooks, Unix

Projects

AI-Powered Knowledge Graphs   **Oct 2024**
- Led development of an AI-powered Knowledge Graph interface for enterprise content, focusing on React frontend and building asynchronous APIs with HuggingFace, Flask, and Neo4j

Accessible Personal Finance for Aging Population - HackSingapore 2024   **May 2024**
- Spearheaded web scraping from financial advice platforms (DBS, DollarsAndSense) and integrated OpenAI API, LangChain, and speech-to-text features to enhance personal finance accessibility for aging populations

Credit Card Approval Classification - Top 5 Project in IT1244 Cohort   **Apr 2023**
- Evaluated XGBoost against random forests & logistic regression with a 10% increase against said models

Leadership

Student Lead, NUS Raffles Hall Developers   **Sep 2022 - Apr 2024**
- **Led a team of 50 students** through **weekly sprints & standups** to develop digital products with technologies such as React & MongoDB, delivering solutions to **over 700+ residents** within Raffles Hall
- Deployed Telegram bots with DigitalOcean & Docker, **reducing loading speeds by 90% from 3 to 0.3s**

Workshop Director, NUS Statistics & Data Science Society   **Aug 2022 - Apr 2024**
- Directed 12 workshops with a **team of 15 to teach 200+ students** essential Data Science skills such as Databases, LLMs, NLP, Deployment & Data Cleaning, providing Powerpoint Slides & Jupyter Notebooks