

# Kwang Yang Chia

90180736 | [chia.kwang.yang@gmail.com](mailto:chia.kwang.yang@gmail.com) | [linkedin.com/in/kwang-yang-chia](https://www.linkedin.com/in/kwang-yang-chia) | [github.com/kwangyy](https://github.com/kwangyy)

## Education

National University of Singapore

Aug 2022 - May 2025

Bachelor of Science (Honours) in Data Science & Analytics

- Graduating **1 year early**
- Relevant Modules: Data Visualisation, Machine Learning, Data Structures & Algorithms, Convex Optimization

## Working Experience

Software 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%**
- Integrated current retrieval-augmented generation 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
- Converted LLM prompts to follow OpenAI Structured Outputs, adhering to JSON schemas

AI Engineer Intern, Atlas

May 2024 - Jul 2024

- Designed a [Retrieval-Augmented Generation \(RAG\) workflow](#) with Query Expansion & Query Rewriting for Atlas, a browser-based Large Language Model (LLM), **cutting operational 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 processes to clean HTML files for LLM-enabled code generation to scrape websites efficiently, **reducing token cost by approximately 60%**
- Formulated new evaluation metrics leveraging LLM-as-a-judge for Atlas responses such as context attribution rate & context miss rate

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

## Projects

AI-Powered Knowledge Graphs

Oct 2024

- Led development of an AI-powered Knowledge Graph for enterprise content, focusing on React frontend and LLM integration for enhanced query capabilities

Credit Card Approval Classification

Apr 2023

- **Achieved Top 5 projects within the IT1244 cohort**, a module on Artificial Intelligence & Machine Learning
- 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**
- Led RHDevs to rank among the top three CCAs with Gold within the media portfolio for the first time in history

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
- Handled collaborations with different student clubs, such as NUS Hackers, NUS Fintech Society & Orbital