Cogal Jacques Tracy Pasaol

Singapore | +6581681140 | jacques.tracy@gmail.com | LinkedIn | jacquescogal.github.io | LeetCode

EDUCATION

Nanyang Technological University, Singapore   **Aug 2020-Jun 2024**
Double Honours Degree Programme (Distinctions)
Bachelor of Engineering (Computer Science) and
Bachelor of Business (with specialization in Business Analytics)

Temasek Polytechnic   **Apr 2015-Apr 2018**
Diploma in Accounting and Finance (with Merit)

WORK EXPERIENCE

UBS   **Singapore**
Software Engineer   *Feb 2025-Present*
Stack: Kotlin, Java, Avro, Kafka
Graduate Talent Program in Wealth Management Core Platform team
- Built high throughput systems from the ground up with Kafka and scoped Kotlin co-routines to enable concurrent processing
- Migrated Credit Suisse systems into UBS ecosystem
- Led hackathon team to winning UBS Global Hackathon 2025 with AI RAG solution for regulatory event triaging and assessment category

Shopee   **Singapore**
Software Engineer   *Jun 2024-Feb 2025*
Stack: Golang, Protobuf, MySQL, Kafka and Grafana etc.
Backend Engineer under marketplace core team
- Developed efficient code within a micro-service architecture
- Designed sub-systems and components within complex infrastructure
- Developed RPC APIs

CPF Board   **Singapore**
Software Engineer Intern   *Dec 2023-May 2024*
Stack: Python (FastAPI), JavaScript (Next.js) and Azure Cloud
Involved in projects relating to large language models and data engineering
- Developed full stack next.js applications to better serve the public and solve organisational issues
- Improved internal knowledge base accessibility, navigability and coherence by developing LLM and vector search based internal search engine
- Optimised information retrieval for a customer-facing internal search engine, improving search relevance (MRR) by approximately 10%

JP Morgan Chase & Co.   **Singapore**
Software Engineer Intern   *Jun 2023-Aug 2023*
Stack: Python, Java, JavaScript (React.js), Oracle Database and Amazon Web Services
Delivered key projects in artificial intelligence and proxy gateway solutions for the financial crimes and asset wealth management teams
- Engineered data pipelines to channel big data into AI models, generating actionable insights for risk assessments
- Developed an SDK to proxy microservices via a caching layer, reducing gateway calls by over 90%
- Led hackathon team to victory at JP Morgan's internal Global Hackathon by developing an anti-money laundering solution

AWARDS AND HONOURS

Champion of UBS Global Hackathon 2025   **2025**
Led team in building AI RAG solution for regulatory event triaging and impact assessment

Champion of GIC Code to Impact 2023   **2023**
Led team to win competition with AI enabled full stack solution

Dean's Honours List AY2022/2023 (BUS)   **2023**
Top 5% of student cohort based on annual academic performance

Champion of J.P Morgan Global Hackathon Singapore 2023   **2023**
Led team to win competition with a solution that leverages transformer models

Champion of J.P Morgan Code for Good 2022   **2022**
Developed full-stack solution to address social enterprise problem

PROJECTS

Tutor LLM (Retrieval Augmented Generation (RAG) Community Knowledgebase)
Stack: Golang, Python, React Typescript, MySQL, Kafka, Weaviate, Docker, gRPC, Protobuf and Redis
GitHub: Full Stack
Developed a full-stack webapp with a distributed backend system for community members to share RAG knowledge base partitions amongst each other
- Leveraged Kafka to decouple heavy processing tasks such as parsing and embedding documents
- Utilised Weaviate as a vector database in consideration of performance and pre-filtering capabilities
- Made use of gRPC and proto buffers for lightweight server communication

CN LLM (Learn HSK 1-6 Chinese with AI generated flash cards and evaluation)
Stack: Typescript React, Python, MySQL
GitHub: Full Stack
Personal project to complement my own Chinese learning journey
- Structured AI outputs generate new learning material
- Leverages FSRS as the space repetition algorithm for learning retention
- Developing MCP for learner specific resource and tool calling

Portfolio Chatbot (Retrieval Augmented Generation (RAG) AI Chatbot)
Stack: React, Python Flask, LangChain, OpenAI, AWS EC2, Docker and Redis Vector DB
Site: jacquescogal.github.io
GitHub: Frontend | Backend
Built a personal portfolio with an AI chatbot that delivers context rich answers about me using RAG
- Leveraged Redis in-memory vector database for fast and relevant document retrieval

SKILLSET

Programming Languages: Python, JavaScript (Typescript, React), Kotlin, Golang, SQL, Java, C++ and C#

Tools: OpenAI, LangChain, Redis, MySQL, GraphQL, MongoDB, AWS, Kafka, Weaviate, Protobuf and Grafana

Knowledge: Generative AI, Retrieval Augmented Generation (RAG), Machine Learning

CERTIFICATES

Azure AI Fundamentals   **2025**

Azure Fundamentals   **2025**

AWS Certified Cloud Practitioner   **2023**