

Cogal Jacques Tracy Pasaol

Singapore | +6581681140 | jacques.tracy@gmail.com | [LinkedIn](#) | [jacquescogal.github.io](https://github.com/jacquescogal) | [LeetCode](#)

EDUCATION

Nanyang Technological University, Singapore

Aug 2020-Present

Double Degree Programme

Bachelor of Engineering (Computer Science) and

Bachelor of Business (with specialization in Business Analytics)

Temasek Polytechnic

Apr 2015-Apr 2018

Accounting and Finance (Diploma with Merit)

WORK EXPERIENCE

CPF Board

Singapore

Software Engineering Intern

Dec 2023-Present

Leveraged these tools: Python (FastAPI), JavaScript (Next.js) and Azure Cloud

Involved in projects relating to large language models and data engineering

- Optimised information retrieval of customer-facing internal search engine, improving search relevance by up to 10%
- Streamlined search index creation with azure functions

JP Morgan Chase & Co.

Singapore

Software Engineering Intern

Jun 2023-Aug 2023

Leveraged these tools: 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 that enabled a microservice usage, reducing API gateway calls by over 90% through a proxy with a caching layer
- Integrated the SDK solution with an in-production software to prove its efficacy
- Led a hackathon team to victory at JP Morgan's internal Global Hackathon by developing an innovative anti-money laundering solution

Zuellig Pharma

Singapore

Data Analyst Intern

Sep 2022-Dec 2022

Leveraged these tools: Python, PostgreSQL Database and Tableau

Engineered data solutions for large-scale, unstructured pharmaceutical datasets, streamlining machine learning model training for data scientists

- Automated data retrieval and cleaning, optimizing machine learning training pipelines
- Validated data cleaning effectiveness via hypo testing, achieving at least 70% population coverage
- Adapted to stakeholder feedback and managed time between projects to deliver successful products for managers in a timely manner

Novelship

Singapore

Strategy/Business Analyst Intern

May 2022-Aug 2022

Leveraged these tools: Python, SQL Database and Tableau

Automated new key market index, achieving efficient data extraction and processing

- Automated Python-to-Tableau pipeline for a new key performance index, enabling better data-driven decisions by key stakeholders

AWARDS AND HONOURS

Champion of GIC Code to Impact 2023	2023
Developed AI enabled full stack solution as full-stack, ai and dev-ops engineer	
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
Team and frontend lead for a proof of concept serving internal stakeholders	
Champion of J.P Morgan Code for Good 2022	2022
Designed, developed and deployed solution to address social enterprise problem	

PROJECTS

FlashCard AI (Leverage LLM as a personal flashcard mentor)

TechStack: React, Python Flask, OpenAI and Amazon Web Services (Lambda, Cloudfront, DynamoDB and etc.)

Site: flashcardai.app

GitHub: github.com/jacquescogal/FlashCardAI

Developed a full-stack web-app that leverages the GPT-4 and AWS infrastructure to deliver an improved flashcard learning experience

- Deployed backend flask with RESTful API design on EC2 with elastic bean stalk
- Implemented user session authentication with JWT access tokens
- Used API gateways to enforce a limit on API calls to prevent abuse and manage cloud service costs

Portfolio Chatbot (Retrieval Augmented Generation AI Chatbot)

TechStack: React, Python Flask, LangChain, OpenAI, AWS EC2, Docker and Pinecone

Site: jacquescogal.github.io

GitHub (Frontend): github.com/jacquescogal/jacquescogal.github.io

Docker Repo (Backend): docker.com/repository/docker/jacquescogal002/portfolio

Built portfolio with AI chatbot feature that returns context rich answers to users about myself

- Leveraged latest vector database technology in Pinecone to quickly retrieve relevant document context
- Deployed backend retrieval augmented generation (RAG) AI on ec2 instance

Greek God "Kahoot" App (Decision Tree Game App Demo for Orientation Camp)

TechStack: React, Python FastAPI, Render Server and AWS DynamoDB

Site: jacquescogal.github.io/TOP24_Demo_Frontend

GitHub (Frontend): github.com/jacquescogal/TOP24_Demo_Frontend

GitHub (Backend): github.com/jacquescogal/TOP24_Demo_Backend

Developed full-stack demo app for orientation camp as acting tech lead

- Leveraged asynchronous programming to handle heavy expected I/O operations
- Implemented of JWT access tokens and middleware for user authentication
- Managed WebSocket connections to support "Kahoot" interaction

SKILLS

Programming Languages: Python, JavaScript (Typescript, React.js, Node + Express, Next.js), Java, C++ and C#

Technologies: Amazon Web Services, Git, SQL, NoSQL, Pinecone, RESTful API and Tableau

CERTIFICATES

FOCP: FinOps Certified Practitioner	2023
AWS Certified Cloud Practitioner	2023