# Cogal Jacques Tracy Pasaol

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## EDUCATION

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**School of Computer Science and Engineering and Nanyang Business School**          **Aug 2020-Present**
**Nanyang Technological University, Singapore**
**Double Degree Programme**
Bachelor of Engineering (Computer Science) and
Bachelor of Business (with specialization in Business Analytics)
Graduating in May 2024

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

## WORK EXPERIENCE

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**JP Morgan Chase & Co.**          **Singapore**
*Software Engineering Intern*          *Jun 2023-Aug 2023*
*Leveraged these tools: Python, Java, JavaScript, 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
- Spearheaded the integration of the SDK solution with a production ready software, streamlining development and improving system scalability
- Led a hackathon team to victory at JP Morgan's Global Hackathon by developing an innovative anti-money laundering solution

**Zuellig Pharma**          **Singapore**
*Data Analyst Associate Specialist, Part-time*          *Sep 2022-Dec 2022*
*Leveraged these tools: Python, PostegreSQL 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 hypothesis testing, achieving at least 70% population coverage
- Leveraged Tableau for real-time data analytics and visualization

**Novelship**          **Singapore**
*Strategy/Business Analyst Intern*          *May 2022-Aug 2022*
*Tool(s) Used: Python, SQL Database and Tableau*
Automated new key market index, achieving efficient data extraction and processing

- Initiated research on potential new key performance index for startup in niche market
- Conducted competitive analysis through web scraping for data comparison
- Automated Python-to-Tableau pipeline for a new key performance index, enabling data-driven decisions by key stakeholder

**Deloitte Touché Tohmatsu Limited**          **Singapore**
*External Auditor Intern*          *Dec 2017-Feb 2018*
Created audit documents, mentored peers and performed ad-hoc audit duties for seniors

## PROJECTS

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**FlashCard AI (Personal Project: Leverage LLM as a personal flashcard mentor)**
*TechStack: React, Python Flask, GPT-4 and Amazon Web Services (Lambda, S3+Cloudfront, DynamoDB and etc.)*
Website: flashcardai.app GitHub: github.com/jacquescogal/FlashCardAI
Developed a full-stack web-app that leverages the GPT-4 API and AWS infrastructure to deliver an improved flashcard learning experience

- Built with microservice first mindset, decoupling resources for more stable development and production environments
- Considered data security implications; protected data in transit by enforcing HTTPS connections throughout infrastructure and protected sensitive data such as passwords with salt and hashing
- Approached AWS with finOps perspective with regard to cost management
- Used API gateways to enforce a limit on API calls to prevent abuse and manage costs
- Deployed frontend react with high availability by delivering with CloudFront
- Ensured backend flask app is not overwhelmed by using loadbalancers
- Implemented user session authentication with JWT tokens with expiry
- Created elasticache redis cluster to keep track of JWT invalidation between flask instances
- Identified bulk loading with DynamoDB as an appropriate database transfer mechanism for expected traffic

**LikeWise (Group Project: University Social Get-together app)**
*TechStack: React and Firebase*
GitHub: github.com/jacquescogal/likewise-app-react-firebase
Developed a web-app for tertiary students to get together through common interests

- Led development efforts and coordinated with product owner and scrum master during scrum meetings
- Controlled backend API access and database tables
- Monitored and approved pull requests from development branches
- Decided on training material to rebase our technical skills
- Guided and supported team members in development efforts

**Fitness and Nutrition android App (Group Project: Social healthy dining and fitness app)**
*TechStack: Java and Firebase*
GitHub: github.com/jacquescogal/CZ2006-Software-Engineering-Fitrition
Developed a fitness and nutrition app with a  social aspect to encourage healthy living among Singaporeans

- Ideated functional and non-functional requirements for our app
- Made class and sequence diagrams
- Designed UI in xml with android studio
- Led development efforts and supported team members in technical areas

## CERTIFICATES

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| **FOCP: FinOps Certified Practitioner** | **2023** |
| **AWS Certified Cloud Practitioner** | **2023** |

## AWARDS AND HONOURS

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

**Champions of J.P Morgan Global Hackathon Singapore 2023**     **2023**
Team and frontend lead for a proof of concept serving internal stakeholders

**Champions of J.P Morgan Code for Good 2022**     **2022**
Designed, developed and deployed solution to address social enterprise problem

**2nd Runner-up for Business Analytics Hackathon, Deloitte & NBS**     **2022**
Incorporated machine learning to detect risk in bank books