

Clark Jason Ngo

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TECHNICAL SKILLS Python, FastAPI, Flask, React, Next.js, Java, Spring Boot, Spring Batch, Elasticsearch, MySQL, Linux

PROFESSIONAL EXPERIENCE

AI Software Engineer | City University of Seattle | Seattle, WA

01/2024 – Present

Built a modular conversational AI pipeline using Retrieval-Augmented Generation (RAG), alongside a custom implementation of the Model Context Protocol (MCP) to support dynamic memory, token window control, and context persistence. Extended this architecture with Google Agent Developer Kit (ADK) to design interoperable multi-agent workflows, enabling agents to coordinate specialized tasks such as retrieval, reasoning, and execution in distributed environments.

- **Multi-Agent Systems & Google ADK:** Designed a swarm-style multi-agent framework where a Supervisor Agent coordinated task delegation across specialized agents (retrieval, summarization, reasoning, tool-use). Leveraged Google ADK to streamline agent communication, extend LLM capabilities with structured event handling, and ensure interoperability with other MCP-aligned tools.
- **Generative AI Course Integration:** Currently pursuing AWS Generative AI Certification to enhance curriculum design in AI education. Developing hands-on modules that integrate AWS Bedrock, SageMaker, and GenAI APIs into student labs, focusing on prompt engineering, fine-tuning, and real-world use cases for LLM deployment in cloud environments.
- **RAG-Based Chat Systems:** Designed and deployed Retrieval-Augmented Generation (RAG) applications integrating LLMs (Gemma via Ollama) with ChromaDB for intelligent search and recommendations. Exposed models and query pipelines through FastAPI endpoints for scalable service delivery. Implemented experiment tracking and model versioning using MLflow to ensure reproducibility and performance monitoring. Built CI/CD pipelines with GitHub Actions and deployed on Amazon EC2 for automated testing, containerization, and production rollout.
- **Enabled dynamic context management** in multi-turn LLM workflows by integrating Claude Desktop with an MCP server and testing interoperability with other MCP-aligned tools.
- **Mobile Fund Transfer App Simulation:** Built a secure mobile banking prototype using Flask and React Native simulating key modules like fund transfer, integrated with front-end review workflows in Jupyter Notebooks.
- **Incident Ticketing System:** Developed a lightweight Python-based ticketing platform for IT support simulation, designed for student use in audit and walkthrough exercises (IEEE 1028).
- **KPI Dashboard & Risk Matrix:** Engineered a visual feedback dashboard using React, Next.js, and Chart.js, connected to a Flask backend with live risk scoring, CRUD operations, and configurable service health endpoints. Included JSON-based data persistence and admin review features.
- **Gamified Learning Apps:** Created interactive React Native apps such as a zombie shooter and quiz combat game to teach state management, local storage (AsyncStorage), and dynamic UI logic using hooks.
- **Technology used:** MongoDB, Flask, FastAPI, Express.js, Next.js, React, React Native, Expo Go, NodeJS, GitHub, TensorFlow, Python, MLflow, OpenAI, Claude, Perplexity, GitHub Codespaces, Brightspace, RAG, MLOps, DevOps, Full-stack, Vibe coding

IT Consultant | Liberty Paper Inc | Quezon, Philippines

11/2023 - 12/2023

Brought in as a strategic advisor to identify optimization opportunities and modernize existing processes, tools, and IT infrastructure—enhancing operational efficiency and scalability.

- Led key digital transformation initiatives, including a centralized knowledge base to improve information access and cross-team collaboration.
- Standardized software development workflows by implementing Git for version control and GitHub as a cloud repository, while modernizing customer service and HR with ServiceDesk for improved request tracking and issue resolution.
- Revamped ERP systems with ERPNext to enhance automation and operational efficiency, while upgrading IT infrastructure with VPN and DDNS for stronger security and seamless remote access.

Software Engineer II | eBay Inc | San Jose, CA (Remote) (Employed by BeaconFire, contracted to Brillio, then contracted to eBay Inc.) 08/2021 - 09/2023

Recruited to revamp the front-end and back-end of eBay Advertising's Control Center, transforming it into a powerful one-stop application for monitoring ad infrastructure health, analyzing performance, managing incidents, and assessing the impact of experiments and code changes.

- Cut mean time to identify site-impacting issues from 1 minute to just 10 seconds by scraping data from ServiceNow and internal APIs, storing it in Elasticsearch, and developing JAX-RS CRUD APIs for enhanced data management. Additionally, integrated Kafka for real-time ingestion and streaming of placement metadata.
- Boosted code reusability by reducing duplication from 20% to 5%—implemented Spring microservices to decouple logic from monolithic applications and published shared libraries to JFrog.
- Enhanced code quality and reliability, increasing test coverage by 40% through JUnit, Mockito, and Jenkins PR validation, while driving best practices via mentoring, code pairing, and rigorous code reviews.
- **Technologies used:** Java, Spring, Spring Batch, Python, JavaScript, React, Redis, MySQL, Elasticsearch, Git, Docker, Kubernetes, and Jenkins.

Software Engineer | CloudEagle.AI | San Francisco, CA (Remote)

05/2020 - 12/2020

Recruited to lead the pre-launch of an AI-driven Vendor Management System (VMS), later backed by Y Combinator, revolutionizing vendor selection, performance tracking, and procurement efficiency.

- Engineered a high-performance Java Spring backend, reducing processing time by 50% for loading customers’ SaaS providers into MongoDB, significantly improving data ingestion speed and system efficiency.
- Conducted rigorous Okta user assignment API testing using Python scripts across 15 random applications, ensuring seamless access control for 500 unique users.
- Validated and maintained a 98%+ accuracy rate in user assignments, reinforcing security and minimizing access inconsistencies.
- Technologies used: React, Java, Python, MongoDB, SwaggerUI, Postman, Docker, Jira, AWS S3, AWS EC2, AWS CloudFront, AWS Cognito, and Okta.

Technical Program Manager | City University of Seattle | Seattle, WA

01/2019 - 04/2020

- Recruited to lead and scale a high-impact apprenticeship program focused on System Administration, Full-Stack Web Development, and Linux+ Certification, equipping military veterans with in-demand technical skills.
- Successfully transitioned 40 out of 43 veterans into AWS Teams as Systems Developers through two intensive 17-week training programs, fostering career advancement in cloud computing and software development.
 - Achieved a 40% reduction in operational costs, saving \$72,000 over two years, by redesigning the learning platform and optimizing workloads for maximum efficiency.
 - Bridged the gap between military service and tech careers, driving workforce transformation through structured mentorship, hands-on training, and real-world application of cloud and development technologies.
 - Technologies used: Java, MEAN Stack, MongoDB, Express, Angular, Node.js, TypeScript, JavaScript, Python, MySQL, AWS, Linux, and Mendix.

Financial Analyst - Mandarin | S&P Capital IQ | Pasig, Philippines

02/2013 - 08/2016

- Consistently achieved an “A” performance rating, exceeding expectations in translating 1,166,110 words across 7,230 data issues over three years, ensuring accuracy and efficiency in Financial Information process translation.
- Pioneered a Business Intelligence translation framework, developing an extensive dictionary of Simplified and Traditional Chinese characters for financial, legal, and medical terminology, improving translation precision and consistency.
 - Enhanced and maintained Systran dictionaries and other translation tools, ensuring greater accuracy, efficiency, and standardization across financial data translations.

Financial Analyst - Mandarin | Thomson Reuters Corp. | Makati, Philippines

09/2011 - 01/2013

- Consistently exceeded performance targets, achieving 130% production efficiency and maintaining 99% data quality, ensuring accuracy and reliability in financial data processing.
- Extracted and encoded fundamental data from China, Taiwan, Hong Kong, and Thailand-listed companies into the Voyager database, while translating Simplified and Traditional Chinese financial statements into English for global accessibility.
 - Identified and analyzed database errors, implementing validation checks and process improvements to enhance data accuracy, reduce inefficiencies, and drive automation.

PUBLICATIONS / PROCEEDINGS

- Ngo, C., & Chung, S. (2024). Enterprise AI Course: Cloud-Based Full-Stack DevSecOps with Retrieval-Augmented Generation. *UKC 2024 Conference*, 238.
- Ngo, C., Chang, J., & Chung, S. (2023). Decreasing the Barrier to Entry for an Open-Source Full-Stack Web Development. *ISCAP Conference*.
- Ngo, C., Wang, P., Tran, T., & Chung, S. (2020). Serverless Computing Architecture Security and Quality Analysis for Back-end Development. *Journal of The Colloquium for Information Systems Security Education*, 7 (1), 44.

EDUCATION

City University of Seattle Master of Business Administration	01/2024 –Present Seattle, WA
City University of Seattle Master of Science in Computer Science	06/2017 – 03/2020 Seattle, WA
De La Salle University Bachelor Science in Commerce, Major in Management of Financial Institutions	05/2007 – 04/2010 Manila, Philippines

CERTIFICATIONS

AWS Cloud Practitioner	12/2020
CompTIA Linux+ ce Certification	04/2020
The Firehose Project Software Engineering	2019 San Francisco, CA
Berklee College of Music Ableton Specialist	2016 Boston, MA