Huu An Duc (Jack) Le

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Education

University of Toronto 2028

Computer Science - Bachelor of Science - 3.9 GPA *Toronto, Canada*

Courses: Software Design (Object-Oriented Programming, Java), Systems Programming (Unix/Linux, C), Computer Organization (Assembly), Data Structures & Analysis, Theory of Computation

Leaderships: Director of Operations (GenAI Genesis), Vice-President of Tech (UTMSAM), Organizer (EmberHacks), Tech Associate (UTMFA), Hackathon Mentor (Ignition Hacks)

Experiences

Research Assistant Sep 2025 – Present

University of Toronto *Toronto, Canada*

- Collaborated with PhD students and professors to **develop an AI coding assistant for 1,000+ students** that generates and explains code through clear steps, alternative solutions, and rationales behind each design choice
- Worked on microservice backend using TypeScript and OpenAI API to deliver contextual insights for AI responses
- Performed **data analysis on 1600+ survey data points** using Pandas/Matplotlib to uncover key trends

Software Project Lead Aug 2025 – Present

UofT Blueprint *Toronto, Canada*

- **Led 8 software developers**, organized development tickets to create a volunteer management system for TRCC
- Deployed Next.js app in TypeScript with Docker and CI/CD pipeline, **reducing deployment failures by 50%**
- Enforced 80% test coverage (Vitest), added Husky pre-commit hooks, and automated dependency maintenance
- **Improved delivery time for stakeholders by 30%** using Git workflows and SCRUM framework

Tech Support Assistant Aug 2025 – Present

UTM Career Center *Toronto, Canada*

- Ensured accessibility (AODA compliant) interfaces and **inclusive UI/UX designs for 16,000+ students**
- Leveraged AI tools to optimize code and development time, delivering projects **1 month ahead of schedule**
- Implemented JavaScript-based tools for data-entry workflows, **saving $1,000/month** in manual labor

Standard Operation Procedure Intern May 2025 – Aug 2025

TRG International *Ho Chi Minh, Vietnam*

- Built notification bot with automated workflows, **cutting communication time by 40%** for 150+ employees
- Built Flask application parsing Word document to highlight key changes, **saving 20+ minutes per review**
- Automated geocoding of 100+ addresses using Python, generating interactive maps for HR location analytics

Projects

Vibe-Learn **Spring Boot / Apache Kafka / MongoDB / Docker / Grafana**

- Built event-driven VS Code extension capturing real-time code changes, processing 1,000+ events/session with sub-100ms latency across 4 Spring Boot microservices using Kafka message streaming and MongoDB database
- Optimized MongoDB connection and Kafka producer pooling, reducing request latency from 120ms to 2ms
- Configured circuit breakers and DLQ for fault tolerance, ensuring reliable processing with automatic recovery
- Built real-time Grafana dashboards to monitor service health, connection pool exhaustion, and partition lag
- Conducted load testing with JMeter simulating 500 concurrent users generating 10,000 events/minute

Image Gallery **Python / FastAPI / JavaScript / AWS**

- Built a serverless image gallery using AWS EC2, S3, and DynamoDB for metadata and image storage
- Implemented global caching with CloudFront, reducing average load times from 220ms to 35ms
- Compressed images by 60% using Canvas API and automated file cleanup with AWS Lambda

Youtube as a Service **Python / Django / Google Cloud Platform / Tailwind CSS**

- Encoded files as video frames uploaded to YouTube, achieving unlimited cloud storage with lossless data recovery
- Produced compression-tolerant algorithm, achieving 99.9% accuracy in bit-level file recovery across 30+ files
- Designed backend safeguards for large file handling, error recovery, and long-running encoding tasks

Technical Skills

Languages: Python, JavaScript/Typescript, Java, C, SQL, HTML/CSS
Frameworks: Spring Boot, Next.js, Django, React.js, FastAPI, Flask, Tailwind CSS
Technologies: Git/Github, PostgreSQL, MongoDB, Supabase, AWS, Google Cloud Platform, Apache Kafka, Docker
Coding Tools: VS Code, IntelliJ, Pycharm, Gemini CLI, Cursor, Claude