

Huu An Duc (Jack) Le

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EDUCATION

University of Toronto

Computer Science - Bachelor of Science - 3.9 GPA

2028

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 bots with automated workflows, **cutting communication time by 40%** for 150+ employees
- Created a Flask app that parsed 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 Java / 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
- Made real-time Grafana dashboards to monitor service health, connection pool exhaustion, and partition lag
- Conducted load testing with JMeter simulating 100 concurrent users generating 1,000 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, reaching 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