Huu An Duc (Jack) Le

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EDUCATION

University of Toronto   2028
Computer Science - Bachelor of Science - 3.76 GPA   *Toronto, Canada*

Courses: Software Design (Object-Oriented Programming), Systems Programming (Unix/Linux), Computer Organization (Assembly), Data Structures & Analysis, Database Management Systems, Web Programming

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**, creating clear explanations, alternative solutions, and design rationales to enhance technical understanding
- Worked on microservice backend using TypeScript and OpenAI API to deliver contextual insights for AI responses
- **Analyzed 1,600+ user data points** using Pandas/Matplotlib to identify trends and optimize tool effectiveness

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 to **reduce deployment failures by 50%**
- Enforced **80% test coverage** (Vitest), added Husky pre-commit hooks, and automated dependency maintenance
- **Improved delivery time by 30%** for stakeholders using Git, Github workflows and SCRUM framework

Tech Support Assistant   Aug 2025 – Present
UTM Career Center   *Toronto, Canada*
- Delivered tech support, ensuring AODA-compliant and **inclusive UI/UX interfaces for 16,000+ students**
- Implemented JavaScript-based scripts for data-entry workflows, **saving $1,000/month** in operational cost
- Leveraged AI tools to optimize code and development time, delivering projects **1 month ahead of schedule**

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 Python tool to compare documents and track live changes, **saving 20+ minutes per review cycle**
- Automated geocoding of 100+ addresses and generating 2D interactive maps with documentations for HR team

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