JEREMY DO

740-915-3932 | do_g1@denison.edu | /in/do-hoang-gia-huy-bbb05921b/ | /github.com/dohoanggiahuy317

EDUCATION

Denison University Granville, OH Graduation: May 2026

- **Bachelor of Science** in Computer Science and Applied Mathematics (**Major GPA: 4.0**)
- **Coursework**: Cloud services (AWS), Data Systems, Microservices and Serverless (IBM), Object-Oriented Design

SKILLS

Development Tools: C/C++, Java, JavaScript, Python, React, Assembly, Spring boot, Firebase, Postman, CRUD, gRPC, Jmix, Kafka, Redis
Cloud Tools: Docker, Kubernetes, MySQL, PostgreSQL, Monasca, OpenStack, AWS S3, AWS Lambda, AWS EC2, DynamoDB, Microsoft Azure Functions, .NET , RabbitMQ

EXPERIENCE

Deloitte May 2024 – August 2024
Software Engineer Intern *Hanoi, Vietnam*

- Utilized **Jmix** and Spring Boot to develop features for monitoring and securing **4,000+** bank transactions and contracts per day.
- Reduced loading time of daily transaction reports by **2 min (80%)** by optimizing SQL queries by creating index and using aggregation functions.
- Implemented and deployed an Algolia search service into a **4-node** Kubernetes cluster, optimizing server traffic by **25%** on Oracle database.
- Ensured secure transactions between **Kafka** brokers and clients by implementing SSL/TLS encryption and SASL authentication.

Above Data, Inc January 2024 – April 2024
Software Engineer Intern *Granville, OH*

- Designed a **RAG** application with LLMs to generate natural responses to customer queries about information on **500+** retail brands.
- Improved data retrieval time by **33%** by designing business logic for RESTful API between the Ollama server and **Elasticsearch** database.

FPT Software July 2023 – September 2023
Software Engineer Intern *Hanoi, Vietnam*

- Designed a soft deletion feature to facilitate data center procedure correction using C#, Amazon RDS, and DynamoDB.
- Upgraded the hypervisor manager using Monasca, reducing computing costs by **65%** for **85** cloud-based virtual machines.
- Configured load balancing to distribute requests across multiple **Docker** containers and separated services into dedicated containers, increasing throughput by **34%** during peak periods.
- Utilized **RabbitMQ** for async processing and **Redis** for caching to handle client requests, reducing average response time from **10 sec** to **7 sec** per request.

VinBrain x Microsoft Smart Health Lab May 2022 – September 2022
Software Engineer Intern *Hanoi, Vietnam*

- Developed a **Spring Boot** microservice booking app to support **100+** patients and doctors during the COVID-19 pandemic.
- Built a client tracking system on **Azure Functions** from Papertrail logs, improving client real-time updates speed by **2 times**.
- Facilitated seamless doctor and patient actions across **Node.js** multi-services by implementing **distributed tracing.**
- Enhanced security at the API Gateway by utilizing **HS256 JSON Web Token** encryption and synchronous communication.

Denison University Research Lab May 2023 – July 2023
Data Engineer Intern *Granville, OH*

- Proposed a multi-threaded pipeline to generate a high-quality dataset of **77,000** data entries for LLMs model training.
- Developed a RESTful API to abstract the data flows among microservices. Link to paper: https://arxiv.org/abs/2309.05103v1

PROJECTS

Student Teamwork Management System

- Created a light SQL engine using **C++** and distributed Parallel Buffer Pool for managing **3,000** teamwork assignments at my college.
- Designed a scalable Query Execution Engine capable of parallel query processing and distributed computing
- Optimized cache replacement policies to achieve **O(1)** time complexity using Linked Lists, Hash Tables, and B+ Tree Indexing.

TikTok TechJam Hackathon 2024 - Image 2 LaTex converter

- Built a full-stack app to convert images to LaTeX on AWS S3, helping **500** students in my department spend less time transcribing notes, giving them more time to study and improve their academic performance.
- Reduced Flask backend memory usage by **1GB** by designing lazy loading method for model inference and image preprocessing.

Cornell University Hackathon 2020

- Built an autonomous software system utilizing **OpenCV** and created 3D printed prototype of self-driving car using AutoCAD.
- Converted the sensor's input data to **grayscale** to prevent overheating when transmitting data to the Arduino microcontroller.

AWARDS

Ohio Annual Programming Contest 2023 & 2024: First Prize among 45 programming teams from 4 colleges in Ohio.
National Mathematics Olympiad 2019: Third Prize in the Vietnam National Mathematics Olympiad
Extracurriculars: Microsoft Learn Student Ambassador, Tapia '23, Denison CompSci Club