

# Giap (Zap) Nguyen

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## EDUCATION

### University of Massachusetts Amherst

Amherst, MA

*Bachelor of Science in Computer Science and Mathematics (Statistics and Data Science)*

*Sep 2022 – May 2026*

**GPA:** 3.65/4 (Chancellor's Award, Dean's List)

**Courses:** Algorithm for Data Science, Operating System, Machine Learning, Information Systems, Algorithm, Software Engineering, Search Engine, Data Structure, Computer Systems, Statistics I, Web Programming, Object-Oriented Programming, Advanced Linear Algebra, Multivariate Calculus, Programming Methodologies, Scientific Computing

## TECHNICAL SKILLS

**Languages:** Python, Typescript, Javascript, C, C++, Java, HTML, CSS, Swift, Kotlin, Rust, Golang, SQL

**Frameworks/Libraries/Databases:** React.js, Redux, Node.js, Fastify, Express.js, Next.js, FastAPI, Flutter, Pytorch, Keras, TensorFlow, OpenCV, Pandas, Numpy, Prisma ORM, MySQL, PostgreSQL, MongoDB, DynamoDB, Firebase

**Developer Tools:** Git, GitHub, GitLab, Docker, Kubernetes, Terraform, AWS, GCP, Azure, CI/CD, VS Code, Cursor

**Certificates:** Supervised Machine Learning(Stanford), Advanced Learning Algorithm(Stanford)

## EXPERIENCE

### FPT Smart Cloud

Aug 2024 – Sep 2024

*Software Engineer Intern | BeautifulSoup, Pytorch, NLP, NER, EE*

- Designed and implemented a preprocessing pipeline for 20 VnExpress article stocks news using **BeautifulSoup**, creating a corpus of 14,000 sentences and 300,000 words. Fine-tuned XLM-RoBERTa for Named Entity Recognition (**NER**) with custom stocks data, achieving a 75% F1 score.

### Defi-Kit Team

Mar 2024 – June 2024

*Software Engineer Intern | Fastify, Next.js, React.js, Docker, Prisma, MySQL, CI/CD, RestAPI*

- Designed databases using **Prisma** Schema for **MySQL**, optimizing data structures to scale efficiently to 10M users
- Collaborated with 2 members to build high-performance **RestAPI** using the **Fastify** framework and integrated database queries with **Prisma Client**, reduced request latency by 60% by caching and optimizing API logic.
- Shortened deployment time by 40% and improved engineering workflow by migrating to **Gitlab CI/CD** and integrating **Terraform** for automated infrastructure provisioning with 2 DevOps Engineers.

### FPT AI Software Center

June 2023 – Sep 2023

*Software Engineer Intern | Pytorch, TensorRT, ONNX, OpenCV*

- Achieved an 80% detection accuracy by fine-tuning PyTorch-based computer vision models to extract Tableau information, enabling faster data extraction for analysts. Collaborated with 3 teammates to accelerate inference speed by 4x through NVIDIA TensorRT optimization (ONNX format).

## PROJECTS

### CI/CD Pipeline on AWS | Terraform, Docker, Ubuntu AWS EC2, AWS ECR | [Github](#)

Jan 2025 - Present

- Implemented 100+ lines Terraform script (**HCL**) to provision an **Ubuntu**-based **EC2** instance on **AWS**, retrieving its public IP for SSH access. Created a **Dockerfile** to containerize a Node.js application, seamlessly integrating with Terraform for streamlined, production-ready cloud deployments.
- Implemented 100+ lines **GitHub Actions** YAML file to build Docker images upon each commit, push them to **AWS ECR**, and trigger Terraform for deploying the image onto the EC2 instance, cutting 80% deployment time.

### AI RPG Crypto Game | Next.js, React.js, MongoDB, RestAPI | [Github](#)

Jan 2025 - Present

- Developed a full-stack AI-powered interactive story game using **Next.js**, **MongoDB Atlas**, and the Cerebras API to run Llama 3.1-8B, featuring dynamic narrative generation and branching storylines based on user choices.
- Utilized the Solana Web3.js SDK to integrate Phantom Wallet for user authentication. Designed and deployed Rust-based smart contracts to handle Reward Distribution, Player Statistics, and Leaderboard.

### Real-Time Chat App | Fastify, Next.js, Redis, Docker, CI/CD, RestAPI | [Github](#)

June 2024 – Present

- Integrated **Fastify**, **Websockets**, and **Redis** Pub/Sub, enabled scalable communication across multiple instances, supporting 1000+ concurrent users. Implemented **Docker** and Docker-Compose for containerization and multi-state builds, reduced deployment time by 50% and streamlined **CI/CD** with **Github Actions**.
- Deployed the application on **Digital Ocean** and **Vercel**, leveraging **Next.js** for frontend and **TailwindCSS**, **Shadcn UI** for styling, ensured high availability and responsiveness with graceful shutdowns.

### Tiktok Quiz Generator | FastAPI, Flutter, Firestore, RestAPI | [Github](#)

May 2018 – May 2020

- Collaborated with 2 members to build custom multiple-choice questions on various topics by **FastAPI** using Whisper for **speech recognition** and Qwen2 model to create a **text generation** pipeline
- Implemented **MVCS** architecture managing cache Q&A in **Firestore**, ensured seamless UI/UX through **Flutter**.