

Aidan Nguyen

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EDUCATION

Virginia Tech

Bachelor of Science in Computer Science

Blacksburg, VA

May 2027

- **Related Coursework:** Object-Oriented Programming, Programming in Python, Data Structures and Algorithms, Computer Organization, Computer Systems, Discrete Mathematics

PROJECTS

Tsukora - Local LLM-Based AI Agent | *Python · Flask · Ollama · Torch · BeautifulSoup · DDG Search*

- Built a multimodal AI assistant handling **100+ spoken/text queries per session**, boosting accuracy by **~40%** through real-time search augmentation.
- Deployed pipelines via **Flask REST APIs**, enabling **sub-2s** response times and scalable speech I/O.

Spring Boot JWT Authentication System | *Java · Spring Boot · Supabase*

- Implemented stateless JWT authentication with role-based access and BCrypt hashing to secure user login flows.
- Integrated Supabase persistence with JPA verification codes to support password resets and session validation.

Neural Network for MNIST Classification | *C# · ML · Matrix Algebra*

- Engineered a neural network from scratch with **92% accuracy on 10K+ samples**, showcasing ML fundamentals without external libraries.
- Created a custom **matrix math library** to ensure stability and reproducible training with manual weight serialization.

Full-Stack Portfolio Website | *React · Node.js · JavaScript · HTML/CSS*

- Designed and deployed a **responsive portfolio site** with **React** and **Node.js**, ensuring seamless cross-device accessibility.
- Automated releases using **CI/CD (GitHub Actions + Vercel)** and built secure form handling via custom Node.js APIs.

EXPERIENCE

Undergraduate Researcher

Code World, No Blanket — Virginia Tech

August 2025 - Present

Blacksburg, VA

- Researching supervised finetuning of LLMs for secure code generation, exploring methods to improve reliability and safety in AI-powered developer tools.

Dental Assistant

Lansdowne Dental Care

June 2023 – August 2023

Leesburg, VA

- Collaborated with dentists and hygienists on **10+ patient intakes/day**, adapting quickly to feedback and strengthening team efficiency under pressure.
- Learned advanced 3D imaging and digital charting systems in weeks, **taking ownership of diagnostics** that reduced record errors and built team confidence in data.
- Translated complex procedures into simple terms, building patient trust while modeling the **user-first communication** critical in cross-functional engineering teams.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript/TypeScript, C#, C++, SQL, HTML/CSS

Frameworks & Platforms: Spring Boot, Flask, Node.js, React, .NET

Libraries & Tools: PyTorch, NumPy, pandas, BeautifulSoup, Torch, XTTS

Technologies: Docker, Git, REST APIs, JWT Authentication, Vercel