

Ryan Nguyen

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OBJECTIVE

Software Engineer with 1+ year of experience in machine learning research, seeking internship roles.

EDUCATION

Bachelor of Computer Science, University of Virginia

Expected 2026

- GPA: 3.9/4.0

SKILLS

- | | |
|--------------------------|--|
| • Programming Languages | Python, C++, Java, HTML, CSS, JavaScript, Typescript, JSON, Rust |
| • Frameworks & Libraries | Node.js, React.js, Next.js, TensorFlow, PyTorch, NumPy, MongoDB |
| • Tools & Platforms | Amazon Web Services, Linux, Jupyter Notebook, Anaconda, Git, Vercel, Vim |
| • Miscellaneous | Fusion360, Internet of Things (IoT), Circuit Assembly, Microsoft Office |

EXPERIENCE

UVA Infrastructure Simulation, Sensing and Evaluation Lab (I-S²EE)

Research Assistant

September 2023 – Present

- Hired as research assistant to the UVA I-S²EE Lab (civil engineering); was selected from a competitive pool of 50+ first- and second-year undergraduates with only one open position.
- Utilized **machine learning** to simulate structural mechanics without conventional methods or equations.
- Authored STRUCT+, an **augmented reality app** to perform >80% accuracy structural analysis. See below.
- Learned finite element analysis via tools such as **Ansys**, and how to simulate it with a **TensorFlow** model.

UVA Engineering Bridge Program

Counselor

July 2024 – August 2024

- Attended UVA from July 10 – August 3 to provide guidance to 33 incoming first-year students: tutor when necessary to ensure that all students succeed. All students passed with a 3.8+ class average GPA.
- Enhanced leadership abilities through active engagement and collaboration in academic settings. Spent 1 hour daily meeting with co-counselors to brainstorm upcoming schedules and special excursions/activities.

PROJECTS

Augmented Reality App: STRUCT+

UVA I-S²EE Lab

September 2023 – Present

- **Augmented reality-** and **ML-enabled** app to simulate >80% accuracy structural analysis in real time.
- Achieved a <500ms round trip time for invoking the model and displaying visual results back to the screen.
- Coded in **Swift** for the iOS platform and used a custom **TensorFlow Lite** model trained from 8000+ inputs.

Personal Resume Website (r-nguyen.com)

Personal Project

August 2023 – Present

- Full stack web application with **MongoDB Atlas** deployment in the backend and 3 custom database **APIs**.
- Utilized **React.js** to build and the **Next.js** framework by **Vercel** to deploy. Approximately 8 unique weekly visits.
- Implemented a multi-user reminder system with a real time countdown. Used Google OAuth2 for authentication.

Machine Learning Algorithm to Predict Rainfall

Personal Project

August 2021 – May 2022

- Engineered a numerical weather prediction (NWP) neural network using **TensorFlow**, **PyTorch**, and **NumPy** in **Jupyter Notebook**. The optimized model was accurate to ± 7.72 mm of predicted rainfall.
- Programmed another script to scrape 81,000+ days of NOAA historical weather data and preprocess such data.

CERTIFICATIONS

Amazon Web Services Certified Cloud Practitioner

Expires June 2027