

# Ryan Nguyen

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## EDUCATION

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**University of Virginia**, Charlottesville, VA

**Bachelors of Science, Computer Science**

*August 2023 – May 2026*

- GPA: 3.95/4.0

**University of Hawai'i at Manoa**, Honolulu, HI

**Undergraduate Engineering, Undeclared**

*August 2021 – December 2022*

- GPA: 4.0/4.0

## SKILLS

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|--------------------------|---|
| • 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      | Linux, Jupyter Notebook, Anaconda, Git, Microsoft Azure, Vercel, Vim    |
| • Miscellaneous          | Fusion360, Internet of Things (IoT), Circuit Assembly, Microsoft Office |

## EXPERIENCE

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**UVA Infrastructure Simulation, Sensing and Evaluation Lab (I-S<sup>2</sup>EE)**

*Research Assistant*

*September 2023 – Present*

- Hired as research assistant to the UVA I-S<sup>2</sup>EE Lab (civil engineering); was selected from a competitive pool of first- and second-year undergraduates with only one open position
- Utilized **artificial intelligence** to simulate structural mechanics without conventional methods or equations
- Coauthored STRUCT-AR, an **augmented reality app** to perform infrastructure analysis & crack detection
- Learned finite element analysis via tools such as **Ansys**

**UVA Engineering Bridge Program**

*Bridge Scholar*

*July 2023 – August 2023*

- Attended UVA from July 12 – August 4 to take an engineering math class (APMA 1000); tutored peers to ensure everyone succeeded as a team and in a timely manner
- Built connections with relevant professors and faculty, learned from/interacted with elder students, explored the greater Charlottesville area to find new hobbies and interests

## PROJECTS

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**Augmented Reality App: STRUCT-AR**

*UVA I-S<sup>2</sup>EE Lab*

*September 2023 – Present*

- Programmed the app base in **Unity** using built-in modules and the **Apple ARToolKit**
- Assisted to deploy a production build version to iOS via **Xcode**

**Personal Resume Website ([r-nguyen.com](http://r-nguyen.com))**

*Personal Project*

*August 2023 – Present*

- Full stack web application with MongoDB Atlas deployment in the backend; several custom APIs
- Utilized **React.js** to build and the **Next.js** framework by **Vercel** to deploy
- Implemented and configured a dynamic space-themed background with **Three.js**

**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**
- Programmed a separate application to gather historical weather data via the NOAA and preprocess such data

**Various 3D Printed Items**

- Modeled and manufactured a functional cog assembly to demonstrate variable gear ratios in **Fusion360**
- Assisted to machine parts of a drivetrain differential using CNC mill, modeled in Fusion360