

HIEU NGUYEN

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EDUCATION

University of Florida, Herbert Wertheim College of Engineering
Bachelor of Science - Computer Science

Gainesville, FL
May 2027

GPA: 4.0/4.0

Relevant Coursework: Data Structures and Algorithm, Programming Fundamentals 2, Applications of Discrete Structures

EXPERIENCE

GGEE Student Assistant
University of Florida

Milton, FL

May 2024 - June 2024

- Taught programming fundamentals and engineering concepts to middle and high school students using Micro:bits and the Makecode platform
- Facilitated classroom activities, fostering a positive learning environment and assisting students with project completion and addressing questions
- Supported program facilitators in research by preparing daily on-site documentation and distributing student surveys

Undergraduate Researcher
The Prevatt Research Group - University of Florida

Gainesville, FL
Current

- Utilize Python to collect and analyze public data such as housing demographics, structures, and characteristics related to hurricane and tornado damage
- Collaborate with other undergraduate researchers to develop a machine learning model using satellite and aerial images to identify building components such as roof types, building sizes or roof pitch angles

SOFTWARE PROJECTS

Chess App
Typescript, React, Rust, Flask, C++

Personal Project

May 2024 - August 2024

- Deployed an online platform that allows users to easily play chess with friends on DigitalOcean, using Nginx as a reverse proxy
- Designed a custom Python Flask web server that utilizes WebSocket to allow a real-time, multiplayer experience
- Created a React frontend with an intuitive design that integrates WebAssembly to communicate with a custom-built chess library written in Rust

Chess Library
Rust

Personal Project

May 2024 - August 2024

- Authored a chess library in Rust that handles moves generation, validation, board representation and piece placements by utilizing the 0x88 representation
- Designed a series of exhaustive unit tests and integration tests to ensure correct functionality and efficient performance
- Utilized the debugger extensively to facilitate the development of the library and to ensure it is bug-free
- Incorporated WebAssembly to run on the web, resulting in better performance than its JavaScript counterpart

Digits Classifier
Python, NumPy, Pygame

Personal Project

May 2024 - August 2024

- Built a simple graphical user interface using Pygame that allows users to freely draw digits using their mouse
- Utilized advanced machine learning techniques such as stochastic gradient descent, backpropagation and mini-batching to create a neural network model that can classify mouse-drawn digits with an accuracy of up to 95%
- Used NumPy to handle complex matrix calculations

SKILLS & CERTIFICATIONS

Languages: Typescript/JavaScript, Python, C++, Rust, HTML/CSS

Frameworks: React, Next.js, Node.js, Express.js, Vue.js, Tailwind, Redux, Flask

Developer Tools: Git, Github, Github Actions, VS Code, PyCharm, Figma, Trello, Postman

Certifications: Microsoft Technology Associate - Introduction to Programming using Java, Microsoft Technology Associate - Software Development Fundamentals, Information Technology Specialist - Databases, Information Technology Specialist - Python

Language Skills: English and Vietnamese

Interests: Soccer, Tennis, Drawing