

Quan Pham

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EDUCATION

Florida State University, Tallahassee, FL

Dec 2025 (expected)

- Master of Science in Computer Science. (Related Courses: Compiler Construction; High-Performance Computing)

Florida State University, Tallahassee, FL

Dec 2023

- Bachelor of Science in Computer Science. (**Summa Cum Laude**)

GPA: 3.98

WORK EXPERIENCE

Florida State University, *Research Assistant*

May 2023 - Present

- Develop an algorithm to transform **MIPS Assembly** into **Vectorized MIPS Assembly** by utilizing **C programming language** to convert control dependences to data dependences, thus leveraging the advantages of **Very Long Instruction Word (VLIW) processor**.
- Implemented **9 optimization techniques** on **SPARC Assembly** such as Branch Chaining, Eliminating Unconditional Jumps, etc. using **Control Flow Graph (CFG)** to **decrease the number of static instructions in standard benchmarks by 25%**

FAMU-FSU College of Engineering, *Front-End Web Developer*

Jan 2022 - Present

- Developed an **interactive selector tool** for circuit analysis practice problems using **JavaScript, HTML, CSS**, allowing students to easily select or deselect circuit components with clicks, eliminating the need for typing component names.
- Developed an **optimal placement algorithm** of various components and labels on a circuit within an **SVG** grid, guaranteeing zero overlap among items.

PROJECTS

Fitness Tracking Web App

Feb 2023 - May 2023

- Led a team of 5 members to build a full-stack fitness tracking web application using **HTML, JavaScript, CSS, Python Flask** and **Firestore** that is fully containerized using **Docker** and hosted on a **Digital Ocean** instance.
- Directed the back-end team in enhancing the web app with multiple features within a **parallel distributed setting**, including **SSL certification** for **HTTPS**, **Role-based Access Control (RBAC)**, and a **Load Balancer** across 2 servers.

Newsletter Web App

Aug 2022 – Dec 2022

- Created a full-stack **server-side-rendering** web app that fetches the data from HackerNews API to display the articles in a user-friendly interface by using **Python Flask, SQL, JavaScript, HTML, and CSS** with 4 other collaborators on GitHub.

RESEARCH PUBLICATION

Khoa, Vo & Pham, Quan & Allen, Ja'Niyah & Blayneh, Kbenesh. (2023). **Efficient relaxation scheme for the SIR and related compartmental models**. (Pre-Print)

- Implemented and simulated various pandemic events for the SIR model and its variants (SIRD and SIR with background mortality) using **Matplotlib** and **Python** to predict the peak of a pandemic.
- Presented the research findings at the distinguished **41st SEARCODE 2023**, a conference specializing in differential equations, with an attendance of 70 scholars.

ACTIVITIES

Florida State University, *Learning Assistant*

Aug 2022 – May 2023

- **Application Development with C#**: Conducted weekly office hours and communicated through Discord and email to assist 5 students/week in understanding high-level concepts and implementation details of **MVVM design pattern**.
- **Data Structures, Algorithms, and Generic Programming 1**: Represented the instructor during weekly office hours to help 5 students/week reconsolidate their knowledge in **Data Structures** and **Object-Oriented Programming**.

TECHNICAL SKILLS

- Languages/Skills: **C/C++**, Python, JavaScript, HTML, CSS, Java, C#, SQL, Assembly, Git, GitHub, Linux/Unix, communication.
- Frameworks: .NET, Universal Windows Platform, ASP.NET Core Web API, Xamarin.Forms, React.js, Flask, Jinja.