# CARLO FRALEY

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## EDUCATION

**University of Florida, Herbert Wertheim College of Engineering | Gainesville, FL**

Computer Science Student | B.S./M.S. Combined Degree Expected BS May 2027 | Expected MS May 2028
- » Current GPA: 4.0 | Honors Program

## SKILLS

**Languages:** C++, Python, Java, JavaScript

**Frameworks/Tools:** React, Next.js, Tailwind CSS, shadcn/ui, SQL, PostgreSQL, Drizzle ORM, Better Auth, Git, Vercel

**Core Competencies:** Object-Oriented Programming, Algorithm Design, Systems Programming, Database Design, Agile/Scrum Development, Full-Stack Web Development

**Soft Skills:** Leadership, Communication, Analytical Problem Solving, Team Collaboration, Adaptability

## CERTIFICATIONS

- Artificial Intelligence Fundamentals and Applications – University of Florida -Dec 2025
- CompTIA Security+ (SY0-701) – July 2025

## COURSEWORK/PROJECTS

### RELEVANT COURSES:

- Data Structures and Algorithms, Computer Organization, Artificial Intelligence Fundamentals, Discrete Structures, Computational Linear Algebra, Problem Solving with Computer Software, Introduction to Software Engineering, Engineering Statistics, Information and Database Systems, Operating Systems, Business Analytics and Artificial Intelligence (AI), Human-Computer Interaction, Algorithm Abstraction and Design, Intro to VR.

### PROJECTS:

- **Verdant - Environmental Risk Mapping Platform - Developer | Next.js, TypeScript, React, PostgreSQL, Clerk, Google Maps API, OpenAI API, Drizzle ORM, Vercel**
  - » Co-developed an interactive web app that visualizes U.S. county-level environmental risks using geospatial data. Built a responsive UI with Tailwind CSS and shadcn/ui, integrated Google Maps and OpenAI APIs, and implemented secure backend APIs with Better Auth authentication. Deployed a scalable serverless Postgres database via Neon using Drizzle ORM. Collaborated in an agile Scrum team for iterative delivery.

- **WAD File System - Userspace Daemon | C++, FUSE API, POSIX, Linux**
  - » Engineered a C++ library and FUSE-based daemon to mount WAD binary files as a functional Linux filesystem, utilizing a hierarchical tree structure to manage map markers and namespace directories.
  - » Implemented low-level file operations using POSIX system calls (pread, pwrite, ftruncate) to perform complex data shifting, descriptor management, and real-time lump data manipulation.

- **Minesweeper – Interactive Desktop Application C++**
  - » Developed a GUI-based desktop application mimicking the classic Minesweeper game.
  - » Engineered grid generation and user-state tracking using object-oriented principles.

- **MovieMender - Personalized Movie Recommendation Engine C++**
  - » Built a high-performance movie recommendation system using parsed IMDb datasets.
  - » Optimized custom algorithms for user profiling, data filtering, and relevance scoring.

## EXPERIENCE

**Health First, Viera Hospital | Melbourne, FL**
**Surgical Unit-Support Volunteer/ trainer**
06/2021 – 04/2023
- Provided logistical and non-clinical support to surgical teams in a fast-paced environment
- Trained incoming volunteers to maintain standards in patient care and hospital protocols.

**Children Hunger Project | Melbourne, FL**
**Director of Events**
08/2022 – 05/2023
- Coordinated volunteers and managed donation logistics to support local children in need
- Orchestrated fundraising events and community outreach campaigns, raising $3,000+ in donations

## CLUBS/MEMBERSHIPS

- UF Society of Hispanic Professional Engineers (SHPE) – Member UF Chapter
- UF Association for Computing Machinery (ACM) – Member
- UF Society of Automobile Engineers (SAE) - Gator Motorsport – 2023-2025

## HONORS & AWARDS

- UF Dean's List – Fall 2023
- AP Capstone Diploma & AP Scholar with Distinction
- Benacquisto Scholarship Recipient
- EFSC President's List – 2023
- UF Presidential Gold Scholarship Recipient
- Congressional Recognition for Academic Achievement (2023)

## CHECK OUT MY PROFILES:

GitHub | in

https://github.com/Carlo-Fr

https://www.linkedin.com/in/carlo-fraley/