

GABRIEL BARRETO OTERO

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EDUCATION

• University of Central Florida

B.S. in Computer Science / GPA: 3.7

*Orlando, FL
May 2029*

EXPERIENCE

• Web Development Intern

Miami EdTech, Miami, FL

Jul 2023 – Aug 2023

- Assisted in development and testing of visual-recognition and educational software; boosted actionable user feedback by **27%**.
- Researched integrations and benefits of STEM curriculum packages; co-authored a proposal targeting outreach to **30+** Miami-Dade schools.
- Completed a Python certification at the conclusion of the internship.

• Game Design Teaching Assistant

John A. Ferguson Senior High, Miami, FL

Aug 2023 – May 2025

- Coordinated and developed year-long course structure and weekly assignments for seven classes of **40+** students.
- Led instruction in C#, JavaScript, and Unity; guided students through full game-dev pipelines.
- Evaluated coursework, provided feedback, and supported lab sessions at scale.

• Secretary of JAF CSHS

Computer Science Honor Society, Miami, FL

May 2023 – May 2025

- Placed **3rd** as a team at USF's *CyberLaunch Hackathon*.
- Led a **team to 2nd** place at the *2023 CSTA Hackathon* (FIU) with an Internet-safety awareness project.
- Delivered workshops on C#, JavaScript, Java, and cybersecurity to cohorts of **30–50** students.
- Accrued **\$20,000+** in combined team hackathon awards across multiple events.

PROJECTS

• NeuroView | HTML, CSS, JavaScript, Three.js, FastAPI, WebSockets

Jan 2026

- Project won **Best User Design** at **SwampHacks XL**, recognized for its intuitive, accessible interface for complex medical imaging.
- Built a web-based 3D MRI/NIFTI brain viewer with sub-minute uploads, interactive rotation, slicing across all planes, and depth-opacity controls.
- Implemented 3D annotation tools using **Three.js** raycasting and optimized rendering for large volumetric datasets to ensure smooth performance.
- Led front-end development of a Google Docs-style collaborative UX, enabling up to **4 users** to simultaneously view, annotate, and explore the same scan in real time.

• Kinexis | Python, Flask, OpenCV, MediaPipe, SQLite, ReportLab

Oct 2025

- Developed at **KnightHacks VIII** as part of a **team of 4**; won **Best App** award.
- Full-stack web application enabling physical therapists to assess patient Range of Motion (ROM) via computer vision.
- Implemented real-time motion tracking using **MediaPipe** and **OpenCV** to capture and analyze limb movements.
- Engineered database architecture with **SQLite** to store angle measurements and automated medical report generation with **ReportLab**.
- Reduced typical ROM assessment time from **15–20 minutes to under 5 minutes**; requires only laptop and webcam for accessibility.

• Ping | C++, Qt, Asio, TCP Networking

(Work in Progress)

- Developing a C++ TCP-based chat system using **Asio** to handle asynchronous client-server communication between multiple users.
- Implementing a scalable backend architecture for message routing, connection management, and reliable data transmission.
- Integrating the networking layer with **Qt**'s event-driven framework, enabling real-time message handling within a desktop GUI.

TECHNICAL SKILLS

- **Languages:** C/C++, C#, Python, Java, JavaScript, HTML/CSS, GDScript, Ruby, SQL
- **Frameworks/Engines:** React, Next.js, Qt Node.js, Flask, Unity, Godot
- **Developer Tools:** Git, Sourcetree, Google Cloud Platform, VS Code, Visual Studio, Eclipse, Chrome DevTools
- **APIs/Libraries:** Google Gemini API, Chrome Extensions API, OpenCV, MediaPipe, NumPy, Pandas, ReportLab