Carlos E. Lopez

754-215-8224 | carlos.lopez@ucf.edu | linkedin.com/in/carloselopezjr | github.com/carloselopezjr | carloselopez.dev

EDUCATION

University of Central Florida Orlando, FL
Bachelor of Science in Computer Science *Aug. 2024 – May 2028*

EXPERIENCE

Undergraduate Research Assistant — March 2025 – Present
UCF Analytics, Decision, and Control Lab — *Orlando, FL*
- Currently developing a prototype addon for *Microsoft Flight Simulator* to integrate **real-world flight data** and simulate historical flight paths.
- Building a Windows application leveraging **SimConnect API** to interface with Microsoft Flight Simulator, supporting aircraft repositioning to user-specified coordinates
- Contributing to ongoing research efforts to support advanced flight data replay and safety analysis.

Administrative Assistant Intern — Aug. 2024 – Sept. 2024
Traveling Aura Mobile Spa — *Davie, FL*
- Organized and managed event data for **20+** partnership opportunities, drafting professional correspondence to support business outreach.
- Developed digital marketing strategies that boosted social media engagement by **15%** during internship
- Conducted research on industry trends, identifying **10+** actionable insights to enhance business efforts.

Retail Associate — Nov. 2022 – Oct. 2023
Hollister CO — *Sunrise, FL*
- Delivered exceptional customer service go **50+** customers daily in a fast-paced retail environment.
- Guided customers through product selection, increasing upsell opportunities and improving sales metrics.
- Supported inventory restocking of **75+** items per shift, maintaining a fully stocked and organized sales floor.

PROJECTS

Riffs | *React, TypeScript, Tailwind, FL Studio, Next.Js, Pitchy* — April 2025
- **1st Place** Winner for **Best App Dev** at Bitcamp 2025.
- Built a music app converting hummed melodies into guitar tabs with real-time note detection and interactive gameplay.
- Implemented a camera system to overlay visual guidance onto the user's guitar, assisting with finger positioning.
- Integrated **Pitchy API** for real-time pitch detection and **FL Studio** for key extraction.
- Developed responsive frontend components delivering a sleek, smooth user interface.

Kmodo | *React, Tailwind, TypeScript, Next, tRPC, Drizzle, PostgreSQL* — Jan. 2025 – Present
- **1st Place** Winner of Knight Hacks Spring 2025 Projects Program.
- Developed a centralized dashboard to streamline hackathon event creation, organization, and participation.
- Constructed user input forms and frontend UI components using **React** to improve event management
- Collaborated with the team to integrate frontend components with backend services, ensuring responsiveness

Personal Portfolio | *React, Tailwind, TypeScript, Next, Last.fm* — Feb. 2025 – Present
- Developed a personal portfolio website to showcase my technical journey.
- Designed responsive design with **Tailwind** for an optimized user experience across devices.
- Leveraged **Last.fm API** to display dynamic music listening data, demonstrating API usage and frontend integration.
- Built using **React** and **Next.js** to deliver fast, seamless performance and optimized user experience

Genius Scraper | *Python, BeautifulSoup, Ascii-magic* — May 2025 – Present
- Designed a web scraping application that converts Genius metadata into ASCII art.
- Extracted album artwork and song metadata from Genius.com using **BeautifulSoup** rendering album covers as ASCII art with **ascii-magic.**

TECHNICAL SKILLS

Programming Languages: Python, C, C#, HTML, CSS, JavaScript, TypeScript, Lua
Libraries/Frameworks: React, Next, Tailwind, .NET, ClerkAuth, Uploadthing, BeautifulSoup
Tools/Platforms: Windows, Linux, Vercel, Railway, Node, Github, Git VSCode, Blender, Figma, VirtualBox, Unity