

# CAMILO ALVAREZ-VELEZ

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## EDUCATION

### UNIVERSITY OF CENTRAL FLORIDA

Bachelor of Science

Major in Computer Science

Cumulative GPA: 3.7/4.0; Dean's List 2021-2024

Relevant Coursework: Software Engineering, Data Structures and Algorithms, Artificial Intelligence, Robot Vision, Systems Software, Machine Learning, Object-Oriented Programming, Discrete Math, Matrix & Linear Algebra, Computer Security

Orlando, FL

Expected May 2025

## WORK EXPERIENCE

### ADC LAB - University of Central Florida

Orlando, FL

Undergraduate Researcher (React, Python, Docker, Nginx)

Nov 2024 – Present

- Led full-stack development of a scalable web-based simulator for time-critical decision-making research.
- Streamlined deployment by containerizing and launching the A/B testing application—cutting deployment time by 70%.
- Engineered predictive analytics to track decision patterns across 1,000+ records and mine 100K+ data points, yielding 30+ key insights.

### THERMO FISHER SCIENTIFIC

Fort Collins, CO

Software Development Intern (C#, .NET, PowerShell)

May 2024 - Aug 2024

- Optimized Attune Xenith Spectral Flow Cytometer to handle 10,000+ real-time events/sec, boosting analysis speed and accuracy.
- Built PowerShell automation tools and fine-tuned system performance, increasing event throughput by 20% and reducing CPU usage by 5% while consolidating 10K+ lines of code.
- Crafted a universal Undo/Redo system, safeguarding critical sample data and potentially saving labs thousands of dollars.
- Resolved 20+ feature and bug tickets using Agile methods, enhancing software stability by 20% and reducing system failures.

## PROJECTS

### GUI BUG LOCALIZER (Node.js, Express.js, Python, Flask, PyTorch, UniXCoder)

Aug 2024 - Present

- Composed a GitHub bot that locates bugs using text-retrieval and novel GUI data, enhancing detection accuracy by 18%.
- Architected an end-to-end pipeline converting GitHub reports into ML embeddings, improving system efficiency by 30%.
- Submitted to IEEE ICSME, an internationally recognized conference.

### FINANCIAL FRAUD DETECTOR (Python, Scikit-learn, FastAPI, Ethereum)

Oct 2024

- Engineered an AI-driven system that identifies fraud trained on 100K+ mock transactions, achieving a ~98% detection rate.
- Deployed smart contracts to enhance data security and implemented a flexible Random Forest model using 20+ data features.
- Awarded First Place at KnightHacks Hackathon, a 36-hour rapid collaborative software engineering event.

### GEOLOCATION COMMUNITY GAME (React, Node.js, MongoDB)

Feb 2024 - Apr 2024

- Spearheaded a GeoGuessr-inspired game for local communities supporting 500+ concurrent players seamlessly.
- Crafted game loop and LocationManager GPS features maintaining 5-meter accuracy for 1000+ user-submitted images.
- Crafted 20 responsive features—including geo-boundary creation and image contributions—to enhance gameplay.

### CLINICAL ASSISTANT & RPPG HEARTBEAT SCREENER (React Native, OpenCV, Flask, RPPG)

Feb 2024

- Developed and launched a mobile system for real-time facial heartbeat screening, capturing five key health markers.
- Designed a medical chatbot for EHR processing and integrating screening data, reducing patient onboarding time by 30%.
- Awarded Third Place at Hacklytics Hackathon, a 36-hour rapid data science engineering event.

## ADDITIONAL

**Technical Skills:** Python, C#, Java, JavaScript, TypeScript, C, PowerShell, Bash, SQL, HTML, CSS, React, React Native, .NET, Node.js, Express.js, REST API, Flask, FastAPI, MySQL, SQLite, Git, UNIX/Linux, Azure, Git, Agile, Jira

**Languages:** Fluent in Spanish & English

**Awards:** Florida Academic Scholars, 99th percentile on UCF Foundation Exam (1st attempt)