Carlos Catala

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EDUCATION

University of Central Florida — May 2028
Bachelor of Science in Computer Science — *Orlando, FL*

EXPERIENCE

Software Engineer Intern — Jun 2025 – Aug 2025
ZuLeris Interactive — *Orlando, FL*
- Reduced notification bugs by **75%** and cut tracking effort by **80%** by shipping a **NotificationManager** and **ObjectiveManager** with reusable assets, boosting reliability and developer velocity.
- Lowered maintenance time by **60%** by abstracting lifecycle management in **C#** to cleanly separate UI, rules, and persistence.
- Unlocked **3** new game modes without code changes by standardizing events and interfaces across systems.

Software Engineer Intern — Apr 2025 – Jun 2025
University of Central Florida — *Orlando, FL*
- Built an **AI/Next.js** platform monitoring **40,000+** students and cut backend query time by **45%**, giving advisors real-time trend views for faster outreach.
- Created **React/Tailwind** dashboards that surfaced at-risk students with live filters and drill-downs.
- Improved advisor response speed by enabling continuous, auto-refreshed visualizations tied to SIS data.

Software Engineer Intern — Jun 2024 – Aug 2024
Crowning Games — *Dallas, TX*
- Enhanced RPG engagement by delivering new characters in **Unity (C#)**, receiving positive feedback from **75** playtesters, and trimming scene load times **30%** through render and asset pipeline optimizations.
- Led weekly **SCRUM**, raising distributed team productivity by **20%** and reducing carry-over work.
- Delivered cross-functional features on schedule across gameplay, art, and backend integration.

Software Engineer Intern — Jun 2023 – Aug 2023
Miami EdTech — *Miami, FL*
- Directed a 4-dev effort to integrate STEM kits, reaching **500+** students, and built a Python dashboard for real-time progress tracking that informed classroom interventions.
- Raised model precision by **20%** through ML classifier tuning and feature selection.
- Improved recall by **10%**, helping educators identify struggling learners earlier.

PROJECTS

Forge (Knight Hacks Monorepo) | Next.js, React, TypeScript, SQLite, Tailwind, tRPC, Drizzle
- Built a Discord bot with **25+** commands for **4,000+** members and a registration site for **1,500+** students, raising developer efficiency by **90%**.
- Deployed the monorepo to a **Linux VPS** using automated **CI/CD workflows** and domain routing, cutting manual setup time by **70%** and ensuring reliable production uptime.

Ctrl-ARM | C++, ADK, A2A, Electron, React, Python
- Won **1st Place Microsoft Social Good** at ShellHacks 2025 with a muscle-controlled interface recognizing **12+** gestures via **EMG + IMU** fusion.
- Expanded access via inclusive input on commodity hardware, improving accessibility for mobility-limited users.

Riffs | Next.js, TypeScript, Pitch Detection, MIDI, Tailwind
- Won **Best App Development** at Bitcamp 2025 by turning hummed melodies into editable tabs with a Guitar-Hero-style play view.
- Lowered barriers with fretboard editing, simplifying creation for beginners and iteration for advanced players .

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, JavaScript, C#, C, C++, HTML, CSS
Libraries/Frameworks: React, Tailwind, tRPC, Next.js, Node.js, Selenium, OpenCV, Mediapipe, Electron
Tools: Git, Unity, Prisma, Vercel, Docker, PostgreSQL, Coolify, IntelliJ, VS Code, Supabase, ADK, A2A