CARLOS MANUEL CEJAS

Computer Science Student | Trinity College Dublin (BSc/MSc)
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EDUCATION

Trinity College Dublin   *2025 – 2030*
BSc/MSc Computer Science (Integrated Masters)

Springfield Township High School   *2021 – 2025*
Relevant: AP Computer Science A, Multi Variable Calculus, Engineering Design

EXPERIENCE

Path Planning Engineer   *Oct 2025 – Present*
Formula Trinity – Autonomous Racing Team

- Develop and refine path-planning algorithms in Python for the autonomous race car subsystem
- Analyze and improve ROS-based codebase; test algorithms in Gazebo simulations
- Optimize racing lines for higher speeds and reduced lap distance

Web Developer   *May 2024 – Sep 2024*
Parkt – Startup

- Led development of company website, building new features and optimizing existing systems
- Consulted on operations, branding, and marketing strategies for early-stage growth
- Contributed to key startup decisions, gaining hands-on experience with product development

Robotics Club Instructor   *Nov 2021 – Dec 2024*
Volunteer – Former Middle School

- Mentored middle school robotics team that won regionals under my previous leadership
- Taught FIRST Lego League programming, debugging, and teamwork skills

PROJECTS

Pollen Cast — Hackathon Entry   *February 2026*
Hack Europe

- Built a multimodal allergy diagnostic mobile app (Expo/React Native) using eye photos, optional voice recording, and location to distinguish allergic vs. viral/bacterial eye conditions.
- Integrated Gemini 2.5 Flash for vision analysis and Google Pollen API for environmental context; optional Python (librosa) service for vocal biomarkers (nasality).
- Implemented safety guardrails (e.g. unilateral redness, fever) and HL7 FHIR R4 compliant outputs with SNOMED-CT coding for clinical findings.

Tech: React Native (Expo), Node.js, Express, Gemini API, Supabase, Python (librosa) | GitHub | pollen-cast.vercel.app

AI Dungeon Master — Hackathon Winner   *Dec 2025*
Claude Builder Club @ TCD Hackathon

- Won "Best Team Collaboration" and "Most Creative Use of Claude" at TCD hackathon
- Built AI-powered D&D game with dynamic storytelling using Claude API, React, and FastAPI
- Implemented persistent campaigns, randomized character generation, and real-time AI responses

Tech: Python, FastAPI, React, Claude API, Vite | GitHub

PlatePals   *Jul 2023*
Drexel Digital Development Course

- Developed full-stack web app connecting food kitchens with volunteers in a team of 6
- Served as full-stack developer, implementing both frontend and backend features

GitHub

SKILLS

Languages:	Python, Java, JavaScript, TypeScript, HTML/CSS, SQL, Bash
Frameworks/Libraries:	React, React Native (Expo), FastAPI, Node.js, Express, Vite, ROS, librosa
Tools & Platforms:	Git, Linux (Ubuntu/Arch), Gazebo, VS Code, Vercel, Supabase, Docker

| **AI & APIs:** | Claude API, Gemini API, Google Pollen API, HL7 FHIR R4, SNOMED-CT |
| **Spoken Languages:** | English (Native), Spanish (Native) |

ACTIVITIES & ACHIEVEMENTS

Trinity: Computer Science Society, Formula Trinity, Philosophical Society, Tennis Society

High School: Science Olympiad (Selected), NHS Member, DECA 2nd Place MTDM, Youth & Government Treasurer