

CARLOS MANUEL CEJAS

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

U.S. Citizen with full work authorization in the United States

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EDUCATION

Trinity College Dublin

BSc/MSc Computer Science (Integrated Masters) 2025 – 2030

Springfield Township High School

Relevant: AP Computer Science A, Multi Variable Calculus, Engineering Design 2021 – 2025

EXPERIENCE

Path Planning Engineer

Formula Trinity – Autonomous Racing Team

Oct 2025 – Present

- 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 distances

Web Developer

Parkt – Startup

May 2024 – Sep 2024

- 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

Volunteer – Former Middle School

Nov 2021 – Dec 2024

- 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

Hack Europe

February 2026

- Built a **multimodal** allergy diagnostic mobile app (Expo/React Native) that uses 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](https://github.com/cmcejass/pollen-cast) | pollen-cast.vercel.app

AI Dungeon Master Hackathon Winner

Claude Builder Club @ TCD Hackathon

Dec 2025

- 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

Drexel Digital Development Course

Jul 2023

- 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.com/CyrusGuest/PlatePals

SKILLS

Languages: Python, Java, JavaScript, HTML/CSS

Frameworks: React, FastAPI, ROS, Vite

Tools: Git, Linux (Ubuntu/Arch), Gazebo, VS Code

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