

Curriculum Vitae

Nathan Manley - Cork, Ireland

First-Year Engineering Student at UCC | Embedded Systems and Space Enthusiast

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More information on my projects and experience available on my website.

Education

University College Cork – BEng (Engineering) – 1st Year

Glanmire Community College – Leaving Certificate 2025 – 589/625 Points

Subjects: Applied Maths, Physics, Technology, Maths, English, History, Irish, French

Technical and Engineering Experience

Patch (2024)

- Selected as one of 30 innovators across Europe to complete the program in Dublin
- Co-founded **Gymificant**, a platform providing actionable analytics to gym owners for machine acquisition and maintenance.
- Developed backend logic and analytics modules using OpenCV, in **C++ and Python**.

UCC Rocketry and Space Exploration Society (2025-2026)

- **Payload Team Member** and **Hardware Avionics Advisor**.
- Developing camera telemetry systems for MACH '26. Advising on the joint UCC+MTU collaboration for EUROC '26.

CanSat

2023 – **Lead Programmer**

- Implemented real-time telemetry and data processing in **C++**.
- Built post-processing algorithms and visualized results for presentation in the competition.

2024 – **Lead 3D Can Design**

- Designed core satellite structure using Autodesk Fusion 360.
- Optimized housing for electronics and produced parts on personal 3D printer.

VEX Robotics

2023 – **Lead Programmer and Build Assistant**

- Programmed autonomous and manual operations for the robot in PROS **C++**, incorporating sensor feedback and optimising algorithms for competitive performance.
- Assisted in the assembly of the robot.

Independent Projects / Achievements

- **Telemetry Parsers:** Captures and interprets UDP data from simulators like Assetto Corsa for integration with microcontrollers and dashboards. Various modules were programmed in **C++**, **Python** and **Javascript**.
- **Coolest Projects:** Entered three original projects showcasing innovation and problem-solving.
- **School Awards:** Environmental and Innovation “**Diograis**” awards while attending GCC.
- “**Eacht**” Award: Recognised for mentoring in 3D Printing (in partnership with DePuy Synthes).

Work Experience

Repair Technician (Summer 2023/2024)

- Diagnosed and repaired various Apple laptops and desktops.
- Enhanced technical troubleshooting and component level repair skills.

Volunteering

CoderDojo Glanmire

Joined as a programmer in 2014, receiving free mentorship. I became a mentor in 2023 to volunteer my time to teach today's young learners **C++**, **Python**, and **HTML**.

Gaisce (2023)

Bronze Gaisce award.

Interests

- Technical: Microcontrollers (ESP32/ESP8266), Embedded Systems, 3D Printing (Ender 3 V2).
- Personal: Weightlifting, Formula 1, Drifting.
- Academic: Electrical, Electronic & Mechanical Engineering. Rocketry and CanSat.

References available upon request