Curriculum Vitae

Nathan Manley - Cork, Ireland

First-Year Engineering Student at UCC | Embedded Systems and Space Enthusiast
https://nathanmanley.me | *https://github.com/macmanley*
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 **Gymificient**, 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 the camera telemetry system for MACH 2026. 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