Harry O'Brien

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Education

University of Manchester — Manchester, UK
B.Sc. in Computer Science — Sep 2019–Aug 2022 (current)
Intergrated Engineering Foundation Year — Sep 2018–Aug 2019

Gosforth Academy — Newcastle Upon Tyne, UK
3 A-Levels in Maths, Further Maths and Computer Science. A, B, B respectively — Sep 2016–Aug 2018
11 GCSEs with an A* in English Language and Maths — Sep 2014–Aug 2016

Experience

University of Manchester Hyperloop — Manchester, UK
Lead Software Developer and Head of Electronics — June 2020 - Current

- **Embedded Electronics Development**
- I have been appointed as the lead software developer for the University of Manchester Hyperloop program. The choice was made by the previous lead due to my interest, skill-set and commitment to work on and reliably complete tasks assigned to me to a very high standard.

University of Manchester Unmanned Aerial Vehicle Society — Manchester, UK
Head of Software and Electronics — October 2019 - Current

- **BAE Drone Swarm Competition**
- Implemented a wireless ad-hoc communications network using batman-adv and wrote a command and control program in C++ to run on a set of Raspberry Pis on custom built quad-copters to direct the swarm at a high level. Now developing software to track and target opponent drones whilst in the air using Y.O.L.O., Open CV and C++.

University of Manchester National Graphene Institute — Manchester, UK
Graphene Hackathon Competitor — November 2019

- **Graphene Hackathon**
- I participated in the first-ever Graphene Hackathon at the Graphene Engineering Innovation Center as a team of six. We worked extremely well as a team using graphene ink and C++ on an Arduino. Within 24 hours we produced a wirelessly-connected glove which senses gestures and touch commands using printed graphene tracks.

Projects

See full list of projects on hobrien.ddns.net/projects

Mint Crispr — 2018 - Current

Flutter, Bluetooth LE, Embedded Devices

- As part of a research project, I am producing a novel low-cost diagnostics platform to diagnose childhood cancer in Malawi using CRISPR-Cas14.

Bare-Bones Raspberry Pi OS — 2018 - 2019

Raspberry Pi, C++, C, ARM Assembly

- Built a custom, bare bones OS for Raspberry Pi following several tutorials and information sources found online.

Skills and Interests

- **Programming:** Well versed int C, C++, Python, Java, Swift and PHP. Learning Verilog and ARM assembly.
- **Hardware:** Embedded devices development, robotics and micro air-vehicle development. 3D design and printing.
- **Additional:** I enjoy rock climbing, snowboarding, and continue to play on a rugby team having been captain in 2016/17. I am also a keen musician, regularly playing the piano, guitar, bass, and drums.

References Available on Request