Joel Chiappetti

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I'm an Electronic & Computer Engineering student with hands-on experience as an IoT Engineer, specialising in hardware design, embedded systems, and CAD. I'm passionate about developing practical engineering solutions, integrating sustainable practices, and contributing to community leadership through volunteering.

Education

University of Nottingham **2022 - 2026**

BEng Electronic & Computer Engineering (with Year in Industry)
On track for a First — Accredited by the IET
Key Modules:

- Scalable Cross-Platform Software - C++, JAVA and best practices
- Embedded Computing - Assembly, Interrupts, RTOS and Interfacing
- Analogue Electronics - Amplifier Design and RF Systems

Dr Challoners Grammar School, Amersham **2015 - 2022**

A-Levels: Maths (A*), Electronics (A*), Further Maths (A), Physics (A)

Experience

IoT Engineer for Digital Prototyping Industrial Placement, STFC **2024 - 2025**

Designed and implemented sensor-based systems to support advanced manufacturing and smart infrastructure.
Contributed to high-impact projects including 5G integration, 3D printer monitoring, and environmental sensing, while developing expertise in embedded systems, rapid prototyping, and cross-functional collaboration.
Key Experiences:

- Developed and deployed IoT solutions using Raspberry Pi, MQTT, and 3D-printed enclosures for real-time monitoring.
- Iterated on over 75 sensor housing designs, optimising for airflow, usability, and deployment constraints.
- Facilitated a multi-million-pound 5G network rollout, enabling high-bandwidth IoT connectivity and remote monitoring.
- Led knowledge transfer through technical documentation and team training to ensure long-term project sustainability.
- Applied CAD (Fusion 360, KiCAD), Python/C++, and PCB design skills in practical engineering environments.
- Collaborated with developers, manufacturing engineers, and external partners to deliver integrated, production-ready systems.

Industry Projects

5G IoT Network Deployment **2024 - 2025**

Integrated environmental IoT sensors with a new 5G infrastructure to enable real-time data streaming; collaborated across departments to align sensor protocols with network architecture and deployment timelines.

Interactive FAQ Kiosk **2025**

Developed a touchscreen FAQ kiosk using Raspberry Pi and a lightweight web stack; improved UX through iterative housing prototypes and live user testing.

Custom Environmental Sensor PCB **2025**

Designed and manufactured PCBs for CO_2 and air quality sensors using KiCAD; implemented safety features and validated designs through field deployment and iterative enclosure refinement.

University Projects

VR Rendering App **2024**

Developed a virtual reality rendering application using VTK and C++; focused on optimizing performance and user experience in immersive environments.

Pulse Oximeter **2023**

Designed and built a pulse oximeter using an STM32 microcontroller and C++ to measure heart rate and SpO_2; collaborated in a team to deliver functional hardware and present results.

Additional Experience

Volunteer, Restore Hope Latimer **2019 - 2025**

Executed and led activities for children from vulnerable backgrounds, developing leadership, adaptability, and communication skills.

Peer Mentor, University of Nottingham **2022 - 2023**

Supported first-year students through mentoring sessions, offering academic guidance and personal support.

Customer Assistant, Amersham Business Services **2020 - 2023**

Provided customer service and administrative support in a busy office environment; developed time management and client-facing skills.

DofE Gold Award **2019 - 2021**

Completed the DofE Gold Award, developing resilience, teamwork, and leadership through volunteering, expeditions, and skill-building activities.