

Bruce Jennings

Electronic & Computer Engineering Student

Birmingham, UK | [Email](#) | [+44 7719 713082](#) | [Portfolio](#) | [LinkedIn](#) | [GitHub](#)

Professional Profile

Second-year Electronic and Computer Engineering student at the University of Nottingham with hands-on experience in embedded systems, FPGA communication, sensor interfacing, and C++ software development.

Interested in building intelligent electronic systems that combine hardware, software, sensing, signal processing, robotics, edge AI, and medical technology.

Open to internships, placements, and project opportunities in embedded systems, intelligent systems, medical technology, and applied electronics.

Education

University of Nottingham – BEng (Hons) Electronic and Computer Engineering | *Sept 2024 – Present*

- On track for a First-Class Honours degree, with relevant modules in embedded systems, signal processing, control, power electronics, software development, and mathematical modelling.

University of Nottingham – Engineering and Physical Sciences Foundation Year | *Sept 2023 – June 2024* | 2:1

Technical Skills

- **Programming & Firmware:** C, C++, Python, MATLAB
- **Embedded & Hardware:** STM32, Arduino, UART, PWM, sensor interfacing
- **Tools & Software:** STM32CubeIDE, Quartus Prime, LTspice, KiCad, Git, GitHub, CMake, Qt, Node-RED
- **Engineering Practices:** Oscilloscope debugging, circuit testing, soldering, technical documentation, system validation

Engineering Project Experience

Line-Following Robot | Individual Project

- Built an autonomous Arduino robot using infrared sensors for real-time path detection.
- Implemented PID motor control and a Node-RED dashboard, refining performance through sensor calibration.

Pulse Oximeter Device | Group Project, Team of Four

- Contributed to a real-time pulse oximeter prototype using STM32 signal acquisition and FPGA-based digital logic.
- Designed UART communication in Quartus Prime and used oscilloscopes to validate timing and hardware-software integration.

Virtual Reality CAD Visualisation System | Group Project

- Developed a C++/Qt CAD viewer using VTK and OpenVR to visualise STL assemblies in desktop and VR environments.
- Implemented recursive STL loading, tree-based model controls, live GUI-to-VR updates, safe VR threading, Doxygen documentation, and installer packaging.

Employment History

TK Maxx – Retail Associate | Nov 2022 – Sept 2025

- Balanced 16+ hours of weekly work alongside university; mentored 8+ new staff members on POS systems and store procedures.

Elite Personnel LTD – Administration Assistant (June 2019)