JAY BEDDINGTON

PROFILE
Mechanical Engineering student at the University of Derby with an **82% first-year average**, combining strong academic performance with hands-on CAD, prototyping and manufacturing experience. Independently developed an automated irrigation system from concept through CAD, fabrication, electronics integration and testing. Seeking a **Year in Industry placement.**

EDUCATION
University of Derby **— BEng (Hons) Mechanical Engineering**
September 2025 – Present | *Expected Graduation: 2029*

- Student Representative for the Mechanical Engineering cohort
- **Mechanical Engineering Principles: 88%** — 91% experimental portfolio covering beam bending, tensile testing, Venturi flow, thermal expansion and impact testing

ENGINEERING PROJECTS & EXPERIENCE
Smart Automated Irrigation System V2 — Independent Engineering Project | *2026–Present*

- Designed and manufactured a modular automated irrigation system using **Fusion 360 and FDM 3D printing**, developing the frame, plant tray, water tank and irrigation system through iterative prototyping.
- Integrated **Arduino control, temperature/humidity sensing, LCD display, servo actuation and programmable pump control**, with MOSFET switching, flyback protection and a custom 5 V power distribution system.
- Documented the engineering development and final design at **jaybeddington.com**.

Pipe-Climbing Robot — University Design Project
Co-designed the mechanical system in SolidWorks and independently designed the electrical system in Proteus, including motor control, H-bridge circuitry and 9 V power supply.

Design & Fabrication Placement — Bowls n' Hooks | *July 2024*
Designed and made bespoke reclaimed-wood products from concept through finishing, with products developed for commercial sale at Ashbourne Makers Market.

African Adventures — Derby County Community Trust | *2025*
Raised £2,500 **independently** to participate in a development project in Nakuru, Kenya, undertaking hands-on construction work alongside an international volunteer team.

PROFESSIONAL DEVELOPMENT & LEADERSHIP
University of Derby IMechE Railway Challenge — Team Member *2026–Present*

Belper Hockey Club — Player & Junior Coach
National League and Derbyshire County experience; supervised coaching of junior players and adapted communication to different ages and abilities.

TECHNICAL SKILLS
CAD: SolidWorks, Fusion 360, AutoCAD
Manufacturing: FDM 3D printing, Laser cutting, Waterjet cutting, Injection moulding
Electronics: Arduino, Proteus, H-bridge motor control · MOSFET switching
Engineering: MATLAB, Experimental testing, technical reporting, Data analysis

Full UK Driving Licence