

JACK BARNARD

Aspiring Electronics Engineering

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PERSONAL STATEMENT

Second-year MEng Electrical and Electronic Engineering student at the University of Southampton with practical experience in FPGA design, SystemVerilog, and hardware prototyping. Background in technical team leadership from leading sub-teams on a solar vehicle project and contributing to STEM outreach initiatives. Seeking an engineering placement or internship to apply digital hardware and embedded systems skills to hands-on industry projects.

SKILLS

- **Hardware & EDA Tools:** SystemVerilog, Quartus Prime, ModelSim, KiCad, FPGA Prototyping (DE1-SoC)
- **Software & Languages:** C, Python (sbot framework), LaTeX
- **Media & Tools:** DaVinci Resolve
- **Soft Skills:** Microsoft Office, Google Workspace, Project management, Industry Engagement

EDUCATION

University of Southampton | Southampton, UK

MEng Electrical and Electronic Engineering

09/2025 – Expected 06/2029

- Academic Status: Currently in Year 2; on track for First-Class Honours classification.
- Leadership: Served as Course Representative, collaborating with students and academic faculty to improve module delivery and amplify student voice.

University of Bristol | Bristol, UK

CertHE Electrical and Electronic Engineering

09/2024 – 06/2025

- Awarded First-Class Honours classification.

Strode College | Street, UK

A-Levels

09/2022 – 06/2024

- Mathematics, Further Mathematics, and Physics (Grades: AAB)

ENGINEERING & TECHNICAL PROJECTS

DE1-SoC FPGA Digital Hardware Projects | SystemVerilog, Quartus Prime, ModelSim

- Real-Time Digital Clock System: Designed and implemented a multi-mode digital clock on an Altera DE1-SoC FPGA featuring clock division, button edge-detection, and multiplexed seven-segment display drivers.
- VGA Graphics Controller: Developed a SystemVerilog display driver module to output custom graphical logic to external monitors over VGA interfaces.
- Arithmetic Logic Unit (ALU) & Storage System: Modelled and verified an ALU with internal register storage testing module logic via simulation scripts in ModelSim.

NFC Card Reader PCB Design | KiCad, Hardware Prototyping

- Executed hardware development in Year 1 requiring schematic capture, and layout of a functional Near Field Communication (NFC) card reader board.

LEADERSHIP & EXTRA-CURRICULAR EXPERIENCE

Southampton Robotics Outreach | Marketing Officer

05/2026 – Present

- Support the planning and execution of flagship STEM events
- Instruct and assist secondary school students in developing Python control code using the custom sbot robotics framework.
- Manage official communication channels and social media presence to engage internal members and external stakeholders.

Electronics and Computer Science Society (ECSS) | Social Media Officer

03/2026 – Present

- Direct content creation across primary social platforms including Instagram and LinkedIn.
- Produced short-form video content (Instagram Reels) that achieved over 20,000 views within a two-month period.

Ardingly Ifield Solar | Electrical Team Lead & Core Member

09/2020 – 06/2023

- Electrical Team Lead: Led a team of 15 students in assembling an 80 kWh solar vehicle battery system utilizing 18650 lithium-ion cells, VRUZEND modular connectors, and a central Battery Management System (BMS).
- Project Management: Co-led an 80+ member team to achieve 2nd place in the United Nations Young Inventors Competition.
- Industry Engagement: Negotiated industry sponsorships, co-coordinated a UK nationwide solar EV showcase tour, and partnered with the IMI to establish a recognized diploma in solar EV engineering.

WORK EXPERIENCE

Stoke Sub Hamdon Community Shop | Yeovil, UK*Shop Assistant*

06/2026 – 09/2026

- Customer Service & Checkout Operations: Processed cash and card transactions using POS systems accurately and efficiently while maintaining a welcoming, professional demeanour.
- Stock & Inventory Management: Organized backroom inventory, and maintained well-stocked, neatly arranged shelves and promotional displays to optimize sales and product visibility.

VOLUNTEER EXPERIENCE

Ark at Egwood CIC | Crewkerne, UK*Volunteer*

06/2026 – 09/2029

- Dedicated two days per week over three months supporting vulnerable individuals across diverse age demographics.
- Facilitated outdoor group activities and community projects designed to improve mental well-being and practical engagement.