

William Betteridge

MEng (Hons) Electronic Engineering student at the University of York
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I am an enthusiastic engineer with a practical ability to explore, understand and develop creative solutions, interfacing between software and hardware. I also enjoy helping people and solving problems, especially being involved in outdoor activities as well as volunteering in a wide range of areas.

EDUCATION

MEng (Hons) in Electronic Engineering, University of York September 2021 – June 2025

- 4th year: predicted 1st, 3rd year: 75%, 2nd year: 69%, 1st year: 85%
- Key modules: Control Engineering, Systems Programming, Machine Vision and Human Machine Interaction, Robotics Design & Construction, Semiconductor Devices, Nanoelectronics & Photonics, Mobile Comms & Internet Protocols

Caldy Grange Grammar School

A Levels: September 2019 – June 2021

- Maths, Electronics, Physics: A*, A*, A

GCSEs: September 2016 – July 2019

- 10 GCSEs (grades 6-9, including five 9's).
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PROJECTS

MEng Project - Autopilot for Aerial Photography February 2025 – June 2025

- Individual final year project developing an autonomous path planning application for an unmanned aerial vehicle (UAV)
- Multiple constraints considered including battery life preservation, optimisation of altitude adjustments, and path planning accounting for environmental conditions including wind speed and direction.
- Progressive testing to fine tune algorithms and balancing of computational efficiency with real-world applicability.

Machine Vision & Image Processing Timelapse Camera September 2024 – November 2024

- Utilised a raspberry pi and camera to create a timelapse system allowing the creation of autonomous timelapse videos.
- Planned an expansion incorporating astrophotography aiming to track the night sky as the earth rotates.

3rd Year Software Engineering Group Project – 74% September 2023 – June 2024

- Took on the role of software manager for a team of 9, leading the planning, design, and coordination for efficient implementation of software components in “DocDuck”, an Engineering Maintenance & Asset Manager Application.
- Directed team members to ensure equal participation, and sufficient understanding to undertake the coding side of the project.

3rd Year Robotics Design and Construction – 76% September 2023 – January 2024

- Construction and autonomy of a mobile robot. Tasked with constructing and programming an autonomous robot via the use of sensors and shortest path algorithms to navigate and map out the maze to solve it.
- Adapted and improvised many implementations of code to find a solution for the robot to solve the maze utilising an embedded system with infrared and ultrasonic sensors interfaced using I2C, and differential drive motors.

WORK EXPERIENCE

Nervous Systems Internship – University of York June 2024 – September 2024

- Developed the first practical hardware implementation of a biologically inspired spiking neural network at the University of York’s £850,000 EPSRC funded Nervous Systems research group.
- Implemented custom artificial neural microcircuits to control a robot and achieve basic obstacle avoidance.
- Challenged myself to advance my Python programming skills using the Brian2 SNN library creating a modular program design, whilst deepening my understanding of hardware-software communication.
- Created a showcase poster which has been accepted for publication at the 2025 IEEE Symposium Series on Computational Intelligence

Photography Business - Willabphotography November 2020 – Present

- Developed and established a social media presence for a personal photography business.
- Created a vibrant portfolio of work, produced and sold scenic calendars in 2021, 2022 & 2023, raising money for charity.
- Commissions for candid photos at anniversary celebrations, and sold Lakeland postcards in local artisan shop.

Lifestyle Courier – Evri (Hermes)	July 2022 – August 2022
<ul style="list-style-type: none"> Excellent 5 star customer service reviews, demonstrating essential time management, route planning and customer liaison skills. Going above and beyond expectations and aiding customers. 	
Heswall monthly magazine delivery – Talkabout Publishing Ltd	July 2016 – September 2021
<ul style="list-style-type: none"> Delivery of local news magazines. Involving route planning and time management. 	

VOLUNTEERING & RESPONSIBILITIES

York Engineering Society	April 2023 – April 2024
<ul style="list-style-type: none"> Secretary for York Engineering Society and the IET on campus group. Took the joint lead role organising and scheduling creative and unique events for a 280-member society. Established communication with new external companies and employees to arrange speaker talks. Directed a committee of 12, delegated tasks and responsibilities to other committee members. Streamlined the planning & delivery of events simplifying the process for committee to collaborate and organise events. Attended North Yorkshire IET meetings to explore opportunities for the society, (talks and local network volunteers). 	
ShockSoc	April 2022 – April 2023
<ul style="list-style-type: none"> Press & Publicity for ShockSoc (Later became York Engineering Society) Designed and created weekly newsletters to inform society members about upcoming events. Ran and maintained a social media presence posting eye catching graphics for each event. 	
Scouting	October 2017 – June 2021
<ul style="list-style-type: none"> Young leading with Cubs, organised and led engaging/fun activities for the cubs. 	
Heswall Parish Youth Community Outreach Program	July 2019 & July 2021
<ul style="list-style-type: none"> Leading and running activities for families and children in deprived areas of The Wirral. 	
Local Nature Reserve Maintenance	June 2019 – September 2019
<ul style="list-style-type: none"> Volunteered as a member of a team to maintain the nature reserve and prevent native species from being lost. 	

ACHIEVEMENTS

Duke of Edinburgh - Silver	December 2019
<ul style="list-style-type: none"> Persevered through DofE being awarded Silver whilst working towards GCSEs. Co-ordinated and completed a 3-day expedition, overcame challenges of tough terrain and navigation. 	
Duke of Edinburgh - Bronze	October 2018
Duke of York - Bronze	June 2017
Piano, Violin, Drums, & Music Theory Grade 5	January 2016 – December 2019

SKILLS & INTERESTS

Full clean driving licence + Pass plus skills	Passed May 2021
Academic and Programming Knowledge & Skills	
<ul style="list-style-type: none"> Programming Languages: C, C++, Java, Python, VHDL, ARM Assembly, MATLAB, HTML & CSS Environments & Tools include: Windows, Linux, Git & GitHub, LaTeX Creative thinking and solutions applied in circuit design & programming solutions. 	
Uni Societies + Extra Curricular	
<ul style="list-style-type: none"> Taken part in lots of university societies, including the photography society, and got involved participating and winning in an exhibition around the theme of “Indoors & Outdoors”. Played in the school orchestra as deputy lead violinist, working as a team. 	
Hill Walking – Completing the Wainwrights	
<ul style="list-style-type: none"> Hill walking in the Lake District, currently enjoying the challenge of completing all the Wainwrights. Currently at 160/214 completed. 	
Sports	
<ul style="list-style-type: none"> Golf, including playing in regular junior golf competitions, and now adult golf competitions. Persevering through Chronic Fatigue to maintain exercise and improve stamina, and motivating myself to improve. Achieved Black Belt in Taekwondo at a young age. 	