

# William Betteridge

4<sup>th</sup> year Meng 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.

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## EDUCATION

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

- 4<sup>th</sup> year (current), 3<sup>rd</sup> year: 75%, 2<sup>nd</sup> year: 69%, 1<sup>st</sup> 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: 2019 - 2021

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

GCSEs: 2019

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

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

- Utilised a raspberry pi and camera to create a timelapse system which allows autonomous timelapse videos to be created.
- Planned an expansion incorporating astrophotography aiming to track the night sky as the earth rotates.

3<sup>rd</sup> Year Software Engineering Group Project – 74% September 2023 – June 2024

- “DocDuck” Engineering Maintenance & Asset Manager Application. I took on the role of software manager for a team of 9, where I took a lead planning, designing and coordinating efficient implementation of software components for the project.
- Directed team members to ensure equal participation, and sufficient understanding to undertake the coding side of the project.

3<sup>rd</sup> Year Robotics Design and Construction – 76% September 2023 – January 2024

- Construction and autonomy of a mobile robot. We were 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.

2<sup>nd</sup> Year Design, Construction & Test Group Project January 2023 – June 2023

- Analogue lead role directing the hardware in the team to create an electronic component tester.
  - Applied creative and critical thinking in order to devise a unique solution to provide an interface via hardware that could be interpreted by a microprocessor to calculate component values.
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## 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, utilising 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 to create a modular program design, whilst deepening my understanding of hardware-software communication.
- Delivered a final presentation to the research group as well as developing a showcase poster for use at research fairs.

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.
- Undertaken 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"> <li>Responsible for delivery of parcels. Essential time management skills, route planning and customer liaison.</li> <li>Excellent 5 star customer service reviews, going above and beyond expectations and aiding customers, as well as taking extra time out to return extra parcels.</li> </ul>	
Heswall monthly magazine delivery – Talkabout Publishing Ltd	July 2016 – September 2021
<ul style="list-style-type: none"> <li>Delivery of local news magazines. Involving route planning and time management.</li> </ul>	

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## VOLUNTEERING & RESPONSIBILITIES

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

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## ACHIEVEMENTS

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

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## SKILLS & INTERESTS

Full clean driving licence + Pass plus skills	Passed May 2021
Academic and Programming Knowledge & Skills	
<ul style="list-style-type: none"> <li>Programming Languages: <ul style="list-style-type: none"> <li>C/C++, Java, Python, VHDL, ARM Assembly, MATLAB, HTML &amp; CSS</li> </ul> </li> <li>Environments &amp; Tools include: Windows, Linux, Git &amp; GitHub, LaTeX</li> <li>Creative thinking and solutions applied in circuit design &amp; programming solutions.</li> </ul>	
Uni Societies + Extra Curricular	
<ul style="list-style-type: none"> <li>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 &amp; Outdoors”.</li> <li>Played in the school orchestra as deputy lead violinist, working as a team.</li> </ul>	
Hill Walking – Completing the Wainwrights	
<ul style="list-style-type: none"> <li>Hill walking in the Lake District, currently enjoying the challenge of completing all the Wainwrights. Currently at 160/214 completed.</li> </ul>	
Sports	
<ul style="list-style-type: none"> <li>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.</li> <li>Achieved Black Belt in Taekwondo at a young age.</li> </ul>	