BENJAMIN JAMES GRIFFITHS

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OBJECTIVE

I am seeking a graduate position as an Electrical & Electronics Engineer for the opportunity to apply the diverse set of skills I have developed at University, in industry and through personal projects. I have experience working on electrical, software and mechanical aspects of projects such as PCB design, programming and CAD in multidisciplinary teams.

You can find out more about the projects I have done at: **https://benjaminjamesgriffiths.github.io/index.html**

EDUCATION

2016 - 2020	The University of Sheffield *1st Year Average: 81.2%* *2nd Year Average: 81.0%* *3rd Year Average 82.8%*	MEng Electrical & Electronic Engineering (Predicted 1st)
2014 - 2016	The Farnborough Sixth Form College	Electronics (A), Maths (B), Physics (C)
2009 - 2014	Woking High School	11 GCSE's (A*-C): Maths (A), English (A), Physics (A)

SKILLS

- **Software Packages:** Ki-CAD, Autodesk Fusion 360, LTSpice, LabVIEW, Visual Studio Code, Android Studio, Adobe Suite, MS Office.
- **Programming:** Python, PyQt5, C, HTML, CSS, Arduino, MATLAB.
- **Teamworking:** Experience working in multidisciplinary teams on a range of projects.
- **Time management:** Delivering results to a high standard whilst meeting project deadlines.
- **Presentation:** Experience presenting as an individual or group, and writing technical reports.

SKILLS & EXPERIENCE

July 2019 – Sep 2019 | Electrical Design Engineer at Siemens in Congleton

- 12-week internship in the R&D department on the electrical design team.
- Designed and developed a program with a GUI in Python and PyQt. The program allows multiple data loggers of different models to be controlled simultaneously, saving the data to a single file and displaying the readings on a graph.
- Soldered components onto prototype power PCBs for induction machine drives.
- Designed a mechanical jig that to easily connect power PCBs quickly for calibration.
- Wrote a script in TCL programming language to perform current and voltage calibration on drives.
- Programmed and verified the design of a prototype magnetic brake control circuit.

Sep 2018 – July 2020 | Underwater Remotely Operated Vehicle Competition

- Lead software engineer and member of the electrical sub-team to design, manufacture and test an underwater remotely operated vehicle (ROV) to compete at the Marine & Technology Education (MATE) ROV competition.
- Designed interface and unit testing PCBs for the electronics control system.
- Developed an ROV control program in Python and PyQt5 that communicates with the ROV to control its functions, taking the form of a highly configurable GUI that could adapt to future designs.
- Developed software in C for the ROVs on-board microcontroller to receive serial commands and control external devices such as thrusters, actuators and sensors.
- Sourced underwater connectors for the electronics control capsule and gained project sponsorship.
- Designed the physical structure of the ROV and the electronics control capsule in CAD.
- Competed in the 2019 competition along with 1400 other students in Tennessee, USA – Top team in the UK and 11th place worldwide.
- Competing in the 2020 Competition in Pennsylvania, USA.

Sep 2018 – June 2019 | European Rover Competition (ERC) – Team Marsworks

- Member of the Electrical and Mechanical sub-teams to design and manufacture a Lunar Rover.
- Designed a highly manoeuvrable and powerful robot arm to be mounted on the Rover, which was responsible for tasks such as drilling, electrical panel maintenance and sample collection.
- The robot arm was designed for easy and inexpensive manufacture, using waterjet aluminium panels and aluminium extrusion for the main structure.
- Designed a robot arm control PCB to allow the arms linear actuators and servo motors to be controlled via a CAN bus communication protocol.
- Wrote software in C for the robot arms microcontroller, using a PID with the linear actuator feedback to achieve positional control.

Nov 2018 | Sir Williams Siemens Challenge

- Participated in a 3-day student hackathon event in a multidisciplinary team that involved designing and manufacturing a system that visually displayed data collected by Siemens Mind Sphere technology.
- The competition involved rapid idea generation and collaboration with new people.
- I was responsible for designing key elements of the system and producing an assembly in CAD that could be easily manufactured during the event, whilst assigning manufacturing tasks to other team members.
- Led to Siemens offering me a 12-week internship at the Congleton site in the R&D department.

ACHIEVEMENTS & HOBBIES

Awarded the Bramwell Prize

- Awarded the Bramwell Prize by The University of Sheffield for my technical performance in my 2nd year coursework project.

Awarded the Demetrios Yiannakou Prize

- Awarded the Yiannakou Prize by The University of Sheffield for my 3rd year research project, which was recognised as the "best project in the Electrical Machines and Drives (EMD) group".

'Engineering You're Hired' & 'Global Engineering Challenge'

- Awarded the "Best Professional Behaviour" team prize during the week-long interdisciplinary engineering challenge.
- Awarded the "Best Communicated Solution" team prize for the final presentation during the week-long interdisciplinary engineering challenge.

Duke of Edinburgh Award

- Completed the Bronze & Silver award with Woking 1st Explorer Scouts, which involved multiple team expeditions and developing new technical and soft skills.

Musical Performance

- Examined to a high level in Guitar, Piano, Violin and Drums.
- Member of the Surrey County Youth Jazz Orchestra for 2 years, performing multiple formal concerts each year and recording a studio album.
- Member of Woking High School Wind band for 5 years, performing seasonal concerts, musicals and performing in yearly European tours.

REFERENCES

Available upon request.