MATTHEW HAYWOOD

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Profile

Second Year Student at the University of Nottingham, currently studying an MEng in Electronic and Computer Engineering. Thoroughly enthusiastic and motivated student seeking a summer placement in a robotics/software engineering position.

Key Skills

- Excellent Analytical and problem solving skills.
- Proficient in multiple programming languages.
- Innovative Design skills.
- Excellent communication skills, both written and oral.

Projects/Experience

Web Development

Completed web development course in which I gained valuable knowledge about the MEAN stack, databases (MongoDB) and restful routing. Used skills gained above, to design stunning websites and web applications using Node.js, HTML, CSS and JavaScript. Continuously honing and improving my personally designed websites (property management and personal storage sites). Proficient in frontend and backend programming including HTML, CSS, JavaScript and Node.js.

Quadcopter building

Achieved autonomous flight by designing, building and testing three custom quadcopters, one of which can perform pre-programmed routes using a GPS module and has auto takeoff/land capabilities.

Robotics

Excellent at design and build skills, using a 3D printer and electronic components. I was able to show this by designing and putting together a DSLR camera pan and tilt time-lapse rig from 3D printed parts, stepper motors, belts and stepper drivers. Using a Raspberry Pi micro controller and touchscreen, I am able to interface to the system so that I can use a preferable method of precise control.

Autonomous Vehicle Team Project

During the first year of university project lab sessions, I worked in a team to design and build an autonomous car. The Car was able to navigate a challenging course that included following different coloured lines using a camera on the front and OpenCV computer vision software. It was also able to

recognise a number of signs placed around the course and perform certain actions on recognition of the sign. An RF remote was also built and used to manually control the car if needed. The system used a number of Arduino microcontrollers to do the low level sensing and used a Raspberry Pi computer to do the CPU intensive image processing fed in from the onboard camera.

MRI Lung Imaging Spectrometer

During the summer of 2014, I spent four weeks building and programming a piece of equipment at the University of Nottingham Medical School. The equipment will be used as a spectrometer in MRI lung imaging. This was extremely beneficial in terms of consolidating my skills in electronics, programming in MATLAB and the theory of how Xenon gas is hyper-polarised.

Computer Languages

C++ - Proficient in programming for all types of projects including object-oriented design.

Python - Excellent skills in Python for a multitude of applications including graphical user interfaces and used in conjunction with the Raspberry Pi computer.

MATLAB - used for university coursework projects.

Various Web Development languages as mentioned above.

Education

University Of Nottingham — MEng Electronic and Computer Engineering, 2018 - Present

Year 1 - 79% average.

Dixie Grammar School, Leicestershire

A-Levels: BBC in Maths, Chemistry and Physics.

GCSE: A*A*A*AA in Chemistry, Physics, Biology, Maths and English.

Part-time Employment

The Red Cow, Leicestershire

Worked as a bartender at my local pub, a fast paced and often pressurised environment where I developed communication skills and an ability to become adaptable.

Bosworth Water Trust, Leicestershire

In my other passion outside of technology, I am a sailing Instructor and racing coach for a local sailing club. Teaching a wide range of people how to sail to RYA level 2, including adults, children and the disabled. Also the team captain for two years demonstrating my commitment to leadership roles and my team player attitude.

References are available upon request.