

Harry Merckel

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Looking for: Graduate employment opportunities

Education

University of Sheffield

2017 - 2022

MEng Systems and Control Engineering with a Year in Industry. Expected result: First

Topics studied include: Model Predictive Control, Embedded Systems Development, State-Space Control Design, System Identification, Digital Signal Processing, Intelligent Systems, Robotics, Biomechatronics, Machine Learning, Finance and Law, Systems Engineering, and Object Oriented Programming

Harrogate Grammar School

2015 - 2017

A levels: Computer Science (A), Physics (A), Maths (A), Further Maths (B),
Extended Project Qualification (A*)

Wetherby High School

2010 - 2015

10 GCSEs: 5 A*, 4 A, 1 B, including Maths and English.

Engineering Experience

Year in Industry - Digital Engineer

July 2020 - July 2021

Eurovia UK, Digital Construction Team

- Software and systems development, building new digital solutions to replace outdated paper-based systems from timesheet and leave request management to geospatial data enhanced surveying
- Creating Power BI reports that draw data from a wide range of sources to provide meaningful insights into business operation for managers and division heads
- Worked on developing an Innovate UK funded project in collaboration with the AMRC to create an automated paving slab planning and cutting system
- Discussing business needs with a range of people from across the company, determining the best approaches and technologies needed to improve productivity

iForge 3D Printing Lead

October 2017 - June 2022

iForge Student-led Makerspace at the University of Sheffield

- Part of the team of volunteers that manage and run the iForge, the University of Sheffield's student-led makerspace, helping thousands of students gain practical skills
- Leader for the 3D Printing team, managing team members and the procurement, management and maintenance of our 3D printers and in-house software solutions
- Developed 3D printing queue software with other team members using Python and Google Sheets, which greatly improved 3D printer usage, efficiency and accessibility
- Experience working with a number of different 3D printing technologies and machines, including a variety of CAD packages, slicing software and FDM and SLA machines
- Responsible for training team members and other iForge Reps in all aspects of 3D printing, including materials, design considerations, maintenance and health and safety
- Practical experience in using a safely using and managing use of many pieces of workshop equipment including laser cutters, bandsaws, belt sanders, CNC mill and waterjet cutter

SME Engineering Research Project

September 2019 - February 2020

Howard Whistles and the University of Sheffield

- Working with a local traditional engineering business to find solutions to their problems using modern methods and technologies such as 3D scanning and SLA resin 3D printing
- Researching and investigating ways to reduce manufacturing costs and improve product performance using rapid design and prototyping methods

Satellite Innovator

July 2019 - September 2019

Grass Roots and Shining Stars, RS Components

- Worked with support from RS components to research and produce a prototype 3D print queue automation system for the iForge makerspace
- Practical experience programming and using a number of technologies including OctoPrint, Google Drive API, and SQL databases

Other Work Experience

COVID Tester

September 2021

Allerton High School

- Worked in a team to safely and effectively run COVID-19 testing in a school to take, handle and process test samples while maintaining cleanliness and hygiene

Cafe Assistant

July - September 2018 and December 2018 - January 2019

Lakeside Cafe

- Customer service, team working, time pressured environment, till management

Work Experience - Intern

July 2016

The Phoenix Partnership (TPP)

- One week of experience in several teams at a clinical and healthcare software company

Other Experience

- Programming and software - experienced with Python, MATLAB and Fusion 360, working knowledge of C, C++, Java, SQL, Git, Simulink, LabView, ROS, and AutoCAD
- Worked in a multidisciplinary team to complete Sheffield University's "Engineering - You're Hired", earning a Distinction based on our report, presentation and teamwork
- President of the University of Sheffield Real Ale and Cider Society, responsible for directing the core aims and goals for the society, ensuring the constitutional aims were met and communicating with, motivating, and delegating tasks to committee members
- Mentored school teams competing in the PiWars 2017 robotics competition, sharing my experience from previous competitions

Other Interests

- 3D Printing - in addition to managing the iForge's fleet of FDM and SLA 3D printers, I run and maintain my own self-built FDM 3D printer
- Raspberry Pi, programming and amateur robotics - co-creator of KEITH series of robots, competed three times in PiWars competition. Winner of A4 size category 2015, 4th in 'Pros and Veterans' category 2017. For more details see <http://keiththerobot.uk/>
- Homebrew - brew my own craft ale, cider, and mead in small 5l batches.
- Music - repiano cornet player for the University of Sheffield Brass Band 2017 - 2020
Played in Tewit Youth Brass Band 2012 - 2017, finished as second principal cornet

References available upon request.