Thomas Mead

Contact Information

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Profile

I am a final-year undergraduate studying a Master's Degree in Electronic Engineering at the University of Southampton currently achieving a 1:1. I am committed to a career in engineering having studied related subjects from GCSE through to A-Level and university achieving top grades throughout. I have also been an active member of engineering clubs, events, and projects, receiving various prizes for my accomplishments. I am a conscientious, reliable, hard-working, and sociable individual with good people skills and enjoy working in a busy and stimulating environment.

Technical Skills

- C including programming embedded systems
- Electronic laboratory test equipment and soldering
- C++ using Visual Studio Code IDE and Qt toolkit
- Web development using HTML, JavaScript and CSS
- FPGA programming using VHDL and SystemVerilog
- MS Office including Word, Excel, PowerPoint
- Virtualisation using VMware
- MATLAB (Comms and Signal Processing Toolboxes)
- Python • Linux • LaTeX • Git • GitHub • Raspberry Pi • Arduino

Education

University of Southampton Southampton, Hampshire *(Sept. 2017 – June. 2021)*

Master of Engineering in Electronic Engineering currently achieving First Class Honours (74.9%):

Yr. 1 (73%), Yr. 2 (79.75%), Yr. 3 (72.5%)

Modules included: Advanced Electronic Systems (94%), Devices (87%), Mathematics for Electronic Engineer -ing II (75%), Computer Engineering (66%) and Engineering Management and Law (65%).

Thomas Hardye School Dorchester, Dorset *(Sept. 2012 – June. 2017)*

4 A-Levels:

Electronics (A*), Mathematics (A), Further Mathematics (A), Physics (B)

12 GCSEs:

(5A*, 4A, 3B) including Mathematics and English Language

Relevant Experience

Multiple Access Communications Ltd Southampton, Hampshire

Assistant Engineer *June. – Aug. 2019, 12 weeks*

Completed a project to design a decoder using novel Polar-Codes and implement in VHDL for a PolarFire FPGA. The work comprised:

- Research to understand the theoretical basis for Polar-Coding modulation schemes.
- Development of a software simulator for Polar-Code in C++.
- Designed Polar-Code encoders and decoders in VHDL for code-lengths 32-bit, 64-bit and 128-bit. These designs were simulated in ModelSim and synthesized in Libero.
- Presentation of Project to Managing Director and Design Services Director and received commendation praising my thorough explanation of the work and the Polar-Coding schemes.

Work Experience

Screwfix Weymouth, Dorset

Part-Time Service Assistant *June. 2016 – Sept. 2017*

- My duties included servicing, providing product advise to customers, replenishing stock, stock audit, taking

deliveries and cashing up.

Kingston Maurward Dorchester, Dorset

Part-Time Events Waiter *June. 2015 – June. 2016*

- My duties included layout out tables, serving customers food and drinks, washing and cleaning. The events were typically wedding receptions, Christmas parties and school/college proms.

University Projects

Project Portfolio: *https://tomcmead.github.io/project-portfolio/* **GitHub:** *https://github.com/tomcmead*

- Portable Distance Meter (75%)

  Hardware lead for the winning team of the University of Southampton Electronic Engineering 2nd year group design project. The portable distance meter calculates the distance between two points and perpendicular distance to those two points. It also allows for a 2D outline scan of the surroundings either full or partial, the angle is chosen by the user. My tasks involved the hardware research, design, simulation, manufacturing, testing and management of the hardware sub-team. The management responsibilities included setting milestones, time-management, contingency plans and ensuring clear communication and progression. The areas of the device I contributed to be the laser pointer sub-system, the step-down voltage converter, and the stepping motor sub-system including programming to determine angular turn for measurement calculations.
- Third Year Individual Project (78%) - IoT Interoperability: Edge-Based IoT Platform

  This project successfully provides a solution to technical interoperability within the IoT through the development of an edge-based IoT gateway. The gateway provides a single consistent interface with a range of standardised communication protocol capabilities for a set of heterogeneous wireless home-automation devices. The gateway bridges the disparate communication protocols implemented by the various connected devices. A Python web app allows user interaction with the wireless home-automation devices and provides Google cloud integration for external data storage.
- Sir William Siemens Challenge

  Represented the University of Southampton in the Sir William Siemens Challenge as the Electronics Lead. The challenge was to creatively display the various data recorded from the University of Sheffield MindShere Lounge, which records multiple indoor building sensors. The team was split into a Product Design and Electronics Sub-Teams. As Electronics Lead I was responsible for time-management, budget-management, scheduling, leadership, monitoring, and reporting progress. I also set up an MQTT communications network for the electronic devices, programming the LED strips and motors. The final design was a rotating sphere with multi-coloured LED strips and robotic arms.

Interests and Activities

Professional Membership: Student member of the Institution of Engineering and Technology (IET).

Southampton University Formula Student Team: Active member of electronics sub-team, I was involved in developing the telemetry for the single-seater prototype race car. This included establishing wireless communication so sensors on the car can be reviewed by the crew to measure performance and record issues.

Engineering Competitions: Participated in multiple engineering related challenges, competitions, and hackathons including the Sir William Siemens Challenge.

Societies: Electronics and Computer Science Society, ECSS Intramural Football Club.

Additional Information

Full Driving License

BAE Systems Internship (2020): Successful application for Systems Engineer Summer Intern position. However, due to COVID-19 all BAE Systems summer internships were cancelled.

Prizes:

- Won University of Southampton second-year electronics group design competition sponsored by BAE Systems for the design of a portable laser distance meter complete with a touchscreen interface.
- Won Engineering Challenge Day held at Fleet Air Arm Museum and was awarded a CREST Award.
- Won Thomas Hardye School A-Level Prizes for Electronics and Mathematics.