Thomas Mead

Contact Information

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Profile

I am a recent graduate achieving a 1:1 Master's Degree in Electronic Engineering from the University of Southampton. I am currently seeking a graduate role in an innovative IoT company. I have studied electronics from GCSE through to A-Level and university achieving top grades throughout. I also have been an active member of electronics 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

- MS Office including Word, Excel, PowerPoint
- Electronic laboratory test equipment and soldering
- Web development using HTML, JavaScript and CSS
- FPGA programming using VHDL and SystemVerilog
- C including programming embedded systems
- Virtualisation using VMware
- Python   • C++   • MATLAB   • Java   • LaTeX   • Linux   • Git   • GitHub

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 Engineering II (75), Embedded Networked Systems (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.

Notable Projects

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

- 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. This 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 application allows user interaction with the wireless home-automation devices and provides Google cloud integration for external data storage.

  Source: https://github.com/tcm-engineer/edge-iot-platform

- Portable Distance Meter (75)

  Winning design for 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. For this project, my tasks involved the hardware research, design, simulation, manufacturing and testing. 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 which includes programming to determine angular turn for measurement calculations.

- Sorting Algorithms Visualisation Web Page

  Designed website using HTML, JavaScript and CSS to give a visualisation of how five of the most popular sorting algorithms operate by displaying their step-by-step procedure for sorting a set of random numbers into ascending order. The algorithms implemented are: Bubble Sort, Selection Sort, Insertion Sort, Quick Sort, and Heap Sort.

  URL: https://tcm-engineer.github.io/sorting-visualisation/

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.

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.