# William Hicklin

LEAD EMBEDDED ENGINEER · SYSTEMS DEVELOPER

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## Professional Summary

Senior software engineer with 8+ years of experience specialising in highly reliable systems software using modern C++ and Rust. Proven ability to lead projects in embedded Linux and robotics environments, from architecture to real-world deployment. Passionate open-source contributor with a focus on advancing memory-safe programming practices in Rust.

## Experience

### Lead Embedded Engineer
Bristol, UK

DYSON
Apr 2024 - Present

Leading embedded software development for connected devices, focusing on Matter protocol implementation and Rust adoption.

- **Rust Adoption:** Initiated and led the adoption of Rust for production systems, developing core libraries and contributing to key open-source projects including `embassy-rs/trouble` and `rs-matter`.
- **Matter Protocol Development:** Led development of core software components for a global IoT ecosystem (Matter), delivering specifications, test plans, and implementation code in C++.
- **Open-Source Initiative:** Secured official approval for open-source software contributions and established new internal workflows, creating practical guides for engineers to contribute to open-source projects.

### Senior Embedded Software Engineer
Bristol, UK

DYSON
Feb 2020 - Apr 2024

Worked on a rapid prototyping team, delivering innovative prototypes and building platforms to accelerate development.

- Led Matter standard implementation efforts, collaborating with engineers across organisations to define specifications and implement new clusters for various device types.
- Designed and implemented embedded hardware and software solutions, including PCBs, back-end software, and embedded UIs.
- Built and maintained a custom OS using Yocto framework, creating tools for internal and external teams.
- Mentored junior team members and led technical aspects of various projects.
- Developed containerised applications and drivers for rapid prototyping platform.

### Systems Developer
Tewkesbury, UK

AIR MONITORS LIMITED
Feb 2018 - Jan 2020

Led the development of an industrial embedded Linux data-logger for collecting data from air quality instruments.

- Designed and built hardware, developed testing applications, and implemented core software in C++.
- Created a custom OS with cross-compilers and an update server, established cloud infrastructure, and developed a web interface.
- Introduced and managed DevOps pipelines with comprehensive feature unit tests.
- Contributed to the Breathe London project with Google and Imperial College London, responsible for logging air quality and position data from mobile monitoring units.

### Research Support Officer
Msida, Malta

UNIVERSITY OF MALTA
Jan 2015 - Feb 2018

Managed a Mobile Air Quality Lab, building systems to manage instruments and data while conducting research campaigns.

- Built online systems to manage instruments and their data using Python and Django.
- Created standard operating procedures for laboratory equipment.
- Performed equipment maintenance and repair.
- Designed and conducted measurement campaigns for air quality research.

### Systems Developer (Contract)
Msida, Malta

UNIVERSITY OF MALTA
May 2014 - Nov 2015

Developed an energy-efficient data logger for a seismometer for an international ocean-bottom station project.

- Designed and implemented an embedded system for seismic data collection.
- Collaborated with international team of engineers in Palermo to integrate with the primary system.
- Optimised power consumption for long-term underwater deployment.

## Skills

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|---|---|
| **Spoken Languages** | English, Maltese |
| **Languages** | C++, Go, Rust, Python |
| **Systems** | Embedded Linux, Matter, Balena, Embedded Rust, Yocto, Embassy |
| **Tools** | Altium Designer, PlantUML |

## Professional Development

**Comprehensive Rust Training**

FERROUS SYSTEMS                                                                     Jan 2024

**Advanced C Programming**                                                          AC-401

FEABHAS                                                                             Feb 2022

**Developing Embedded Systems with Yocto**

DOULOS                                                                              Feb 2019

## Education

**University of Malta**                                                        Msida, Malta

M.Sc. IN PHYSICS (RESEARCH)                                                      2012 - 2014

- Grade: Distinction
- Dissertation: "Investigations of VOCs in buildings close to service stations"

**University of Malta**                                                        Msida, Malta

B.Sc. (HONOURS) IN CHEMISTRY AND PHYSICS                                         2008 - 2012

- Grade: Merit (Second Upper)
- Dissertation: "Construction and Characterisation of Dye-Sensitised Solar Cells: using natural dyes"

## Professional Strengths

- Technical leadership and mentorship
- Cross-functional collaboration
- Detailed code review and documentation
- Problem-solving and innovation
- Continuous improvement mindset
- Open-source contribution and advocacy
- Strong analytical thinking and attention to detail