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Ryan, Paul McKenna

Date of birth: 08/12/1994 | **Place of birth:** United Kingdom | **Nationality:** Irish, British |

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ABOUT MYSELF

I am an Embedded Systems Engineer and PhD researcher with a unique blend of deep theoretical expertise and practical, hands-on engineering experience. My professional focus lies at the intersection of embedded firmware development, low-level systems programming, and electrical engineering, with a strong foundation in physics, robotics, and applied machine learning.
Currently completing a PhD in Computer Science at the University of York—with a research focus in robotics, reinforcement learning, and deformable object manipulation—I bring a high level of mathematical and analytical rigor to all engineering challenges. However, my passion lies in building real-world systems: from firmware and device drivers to schematics, PCB design, and physical prototyping.
I thrive in multidisciplinary environments where software and hardware meet. Whether it's implementing RTOS-based solutions, designing embedded drivers, soldering prototypes, machining parts, or debugging with an oscilloscope, I enjoy working across the stack to deliver robust, integrated systems.
I'm now seeking a role that leverages my expertise in embedded systems, real-time firmware, and electronics design—ideally in a hands-on, engineering-driven setting that values cross-disciplinary thinking and innovation.

WORK EXPERIENCE

LINX - PRINTING TECHNOLOGIES – CAMBRIDGE, UNITED KINGDOM

Address 8 Stocks Bridge Way, St. Ives, PE27 5JL, Cambridge, United Kingdom

EMBEDDED SYSTEM SOFTWARE DEVELOPER – 02/12/2024 – CURRENT

Served as a key technical liaison on the Customer Specials team, addressing field-reported bugs and feature enhancement requests from end-users and distributors.

Communicated directly with customers and distributors in high-stakes environments to assess needs, troubleshoot critical issues, and deliver precise, timely solutions.

Provided accurate time and effort estimates for new tasks, and prioritized incoming work to maintain project timelines and customer satisfaction.

Collaborated with customers to clarify issue reports and enhancement requirements, translating them into actionable engineering tasks and delivering tailored solutions.

Partnered cross-functionally with Software, Electrical, Mechanical, and Chemical Engineering teams to develop and implement integrated, cross-disciplinary solutions.

Ensured all engineering deliverables complied with key industry standards, including RoHS, CE Marking, and IEC 61508 for functional safety.

Continuously identified and implemented process improvements and automation opportunities to increase efficiency and reduce manual workloads.

Leveraged a deep understanding of embedded systems and hardware integration to build robust, maintainable solutions and streamline team output.

Utilized a diverse range of diagnostic and fabrication tools—including oscilloscopes, thermal cameras, electronic loads, soldering stations, lathes, milling machines, and more—for troubleshooting, testing, and prototyping.

Designed and fabricated custom test rigs for mechanical systems (e.g., valves, pumps), including electrical schematics, PCB prototyping and assembly, embedded firmware development, and hardware validation.

MBDA – BRISTOL, UNITED KINGDOM

Address 3 Golf Course Ln, Bristol , BS34 7QS, Bristol, United Kingdom

EMBEDDED SYSTEMS SOFTWARE DEVELOPER – 17/02/2022 – 19/04/2023

- Developed robust embedded systems in C & C++ for unmanned defence systems, increasing system efficiency by 20%.
- Improved implementation supporting low-level real-time communication protocols (CAN, UART, I2C, SPI), resulting in a 30% improvement in data transmission reliability.
- Collaborated with cross-functional teams to design control systems, which enhanced the precision of control systems by 25%.
- Contributed to the design of autonomous ground-based missile defence system, improving system adaptability for real-world tasks by 35%.

ELIXIR SOFTWARE – MANCHESTER, UNITED KINGDOM

Address Glasshouse, Alderley Park, Congleton Road Nether Alderley, Macclesfield, SK10 4ZE, Manchester, United Kingdom

SOFTWARE ENGINEER – 01/07/2019 – 28/03/2021

- Led the end-to-end development of new features for ITRAX, a productivity system for chemists, which boosted laboratory efficiency by 40%.
- Integrated computational chemistry tools into the software, accelerating the chemists drug discovery workflow by 15%.
- Created clean, reusable code in line with design patterns, reducing maintenance time by 25%.
- Handled and examined extensive datasets with advanced statistical modelling techniques, yielding insights that supported better decision-making and enhanced business efficiency by 30%.
- Designed data visualization systems, which enabled better forecasting and project planning for scientists.

EDUCATION AND TRAINING

10/10/2023 – CURRENT York, United Kingdom

DOCTOR OF PHILOSOPHY (COMPUTER SCIENCE) University of York

Address Heslington, York, YO10 5DD, York, United Kingdom | **Website** https://www.york.ac.uk/ | **Level in EQF** EQF level 8

12/09/2019 – 26/06/2022 Chester, United Kingdom

MASTER OF SCIENCE University of Chester

Address Parkgate Rd, Chester , CH1 4BJ, Chester, United Kingdom | **Website** https://www.chester.ac.uk/ |

Level in EQF EQF level 8

10/09/2016 – 30/06/2019 Sheffield, United Kingdom

BACHELOR'S OF ENGINEERING Sheffield Hallam University

Address Howard St, Sheffield City Centre, Sheffield , S1 1WB, Sheffield, United Kingdom | **Website** https://www.shu.ac.uk/ |

Level in EQF EQF level 7

LANGUAGE SKILLS

Mother tongue(s): **ENGLISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
SPANISH	B1	B1	A2	A2	B1
FRENCH	A2	A2	A1	A1	A2
GERMAN	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

SKILLS

C++ | CUDA | Numpy | Matplotlib | PyTorch | Python | OpenCV | MATLAB | Algorithms & Data-structures | Micro-controllers | STM32 | sympy | Linux | AWS | GCP | Pandas | scipy | ROS | Isaac-gym | Git | Deep Learning | Machine Learning | Scikit-Learn | Artificial Intelligence | SQL | Data Science | Seaborn | Keras | Computer Vision | Data Analysis | Test-Driven-development | software metrics | UML-diagramming | ER-diagramming | Embedded C / Embedded Linux / RTOS / Testing Fundamentals / Confident using Raspberry pi | RTOS | Altium Designer, Xilinx, MS Office, AutoCAD, Micro-vision Keil, | AutoCAD and Inventor CAD program | CAD (FreeCAD) | Gcc, Clang, CMake, Make basics | Modern C++ Boost Library | NVIDIA Omniverse | Lathe Machining | boring machine ,milling machine tool grinding machine training. | communication Protocols(UART,SPI,I2C,CAN) | ARM CORTEX