

Callum Apps

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Embedded Software Engineer at BAE Systems starting from the graduate scheme, developing low-level C software for FPGA-based systems, with hands-on hardware integration, testing, and system design in an Agile/Scrum environment.
Strong academic background in data science, machine learning, embedded programming, and engineering design.

PROFESSIONAL EXPERIENCE

BAE Systems Inc. Electronic Systems | Rochester, Kent, UK

September 2024 - Present

Graduate Software Engineer (Software Engineer as of March 2026) – SC Cleared

- Developed and delivered DO-178C Level C/D embedded firmware on ARM Cortex MCUs.
- Engineered low-level C drivers and CSU's for FPGA-based systems.
- Contributed to system-level design using SysML, producing architecture and design documentation.
- Utilised Git for version control and configuration management in collaborative environments.
- Experienced with JIRA for task and workflow tracking.
- Integrated and delivered firmware via CI/CD pipelines using Jenkins and Bitbucket.
- Experienced in software verification to MISRA standards and testing using Polyspace and VectorCast.

The University of Reading | Reading, Berkshire, UK

September 2023 - July 2024

Information Technology Support Analyst

- Supported students and staff by diagnosing and resolving issues across authentication, account management, network access, and operating system faults (Windows & Linux).
- Conducted OS-level troubleshooting, including SSH-based server access, PowerShell scripting, and Linux command-line diagnostics to restore services.
- Improved user experience through clear documentation, communication, and timely resolution of support tickets.

Microsoft, Huntress | Reading, Berkshire, UK

September 2022 - October 2023

Games Functionality Tester

- Tested pre-release software titles, executing structured test cases to identify, reproduce, and document defects.
- Produced clear and detailed bug reports, improving defect traceability and communication with development teams.
- Tracked testing progress and issues using Microsoft Excel, strengthening software QA and reporting skills.

EDUCATION

The University of Reading | Reading, Berkshire, UK

September 2021 - July 2024

Bachelor of Computer Science with Honours

- Theory Modules:** Algorithms & Operating Systems, Compilers, Computer Architecture & Networking, Databases & Information Security, Distributed Systems & Parallel Computing, Artificial Intelligence, Data Science Algorithms & Tools, Text Mining & NLP, Image Analysis, Data Integration & Visualisation. (78% Average).
- Programming Modules:** Java, Python for Data Science, C, Service-Oriented Applications, UML & Software Design. (80% Average).
- Undergraduate Dissertation:** Multiplayer networked game developed using Java and C, enabling real-time, cross-device online gameplay.

KEY COMPETENCIES

- Programming & Scripting:** C (embedded development), Python, ML/NLP tensorflow/pytorch , experience using Java, PowerShell / Linux Shell scripting, web development utilising JavaScript/HTML.
- Embedded Systems:** FPGA integration, system design, hardware-software interfacing, lab-based integration.
- Data & Tools:** Databases & data integration, data visualisation & analysis, text mining / NLP (academic experience), Microsoft Excel (data tracking & reporting).
- Software Design & Methodologies:** SysML, UML & software system design, Agile/Scrum workflows, JIRA (task tracking), software testing and debugging, software quality assurance, problem-solving and troubleshooting in complex systems.
- Other / Professional Skills:** Cross-functional collaboration with engineering managers, multi-tasking on high-priority engineering projects, Report/documentation writing and technical documentation.

NOTABLE ACHIEVEMENTS

- Achieved First-Class Honours BSc in Computer Science, demonstrating strong academic performance.
- Received exceptionally high-performance grades in all reviews at current role.
- Finalist for BAE Systems Engineering Graduate of the Year.
- Awarded multiple recognition awards for significant contributions and impact in current role.