

# RYAN WARD

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## EXPERIENCE

### January 2025 - Current

#### Software Engineer, Praetorian Aeronautics, Adelaide

- Currently working in a small team to design and develop next generation counter unmanned aerial system technologies.
- Integrating avionic components and flight controller hardware with ArduPilot and MissionPlanner.
- Designing and architecting a secure and robust command and control ground station.
- Developing multi-agent reinforcement learning visualization tools for stakeholder demonstrations.
- Configuring and supporting company wide software development infrastructure.

### August 2024 – January 2025

#### Embedded Linux Software Engineer, Boeing Defence Australia, Brisbane

- Currently working in an international team to produce a custom Linux distribution suitable for safety critical applications.
- Working in team of 5, developing C standard library unit tests, in compliance with the POSIX 2008 standard.
- Supporting architectural decisions and influencing greenfield project development.
- Contributing to various development tools to improve the workflow for colleagues in South Korea and America.
- Developing skills in systems C programming, embedded Linux, Yocto, and Buildroot.

### January 2024 – August 2024

#### EE Systems Design Engineer, Boeing Defence Australia, Brisbane

- Master's thesis project has been fully funded as a NextGen project and has generated significant customer interest.
- Hardware design integration, porting firmware from COTS development boards to custom RF frontend hardware.
- FPGA digital network radio communication system development using VHDL and Xilinx toolchains.
- Mission module production firmware development in C/C++.
- Improving skills in VHDL development, FreeRTOS, firmware architecture and digital signal processing.

### January 2023 – December 2023

#### Engineering Intern, Boeing Defence Australia, Brisbane

- Developed a prototype system allowing radio communication over a digital network as part of my master's thesis.
- Improved skills in VHDL development, RTOS and system development, digital signal processing.
- Constructed a project management strategy and consulted with other employees to achieve the project goals within the strict 6-month time allocated.

### August 2022 - June 2023

#### Research Assistant, The University of Queensland, Brisbane

- Researched and designed a blockchain-based event ticketing system in a team of 2, built on the Polygon network to be implemented in events such as the Queensland Symphony Orchestra and the Brisbane Festival.
- Directed weekly progress meetings and collaboration workshops between UQ and the industry partner.
- Won the UQ Innovations Showcase award for Best Blockchain Project.
- Co-authored a 30-page research journal published in Springer's Blockchain and Smart-Contract Technologies for Innovative Applications.

### January 2022 - November 2022

#### Software Developer, GameDaySquad

- Led development for a backend administration dashboard for a team of 15 employees to use in production of a blockchain-based fantasy sports game.

## EDUCATION

**November 2023**

**BACHELOR'S (HONS)/MASTER'S OF ELECTRICAL AND COMPUTER ENGINEERING**, The University of Queensland

Majored in Electrical and Computer engineering, with electives focused on software, cyber-security and embedded systems. Graduated with class IIA Honours.

Relevant coursework: C programming, operating systems architecture, computer vision, FPGA development.

**December 2018**

**HIGH SCHOOL**, Iona College

Graduated with an OP 2.

## SKILLS AND EXPERIENCE

- Embedded system programming and architecture, computer networks, electrical design, software development and testing, web development, Linux operating systems
- Efficient problem solver and fast learner
- C/C++, Python, VHDL, Tcl, Matlab, Zig
- FreeRTOS and Zephyr RTOS
- Understanding of Kconfig and devicetree
- C standard library
- Embedded Linux - Yocto and Buildroot
- Atlassian suite (Jira/Bitbucket/Confluence)
- SonarQube analysis
- Jenkins CI/CD
- ARM and RISC-V architecture
- Digital signal processing
- Languages: English, Japanese (Basic)
- Certificate III in Logistics
- Gitlab CI/CD
- POSIX and FACE 3.2 standard

## ACHIEVEMENTS

- Open-source contributions (ST Microelectronics, FreeRTOS Kernel)
- Research paper published by Springer
- Master's thesis is now funded for further production by a customer

## ACTIVITIES

- 2024 BDA Stem Outreach
- 2019-2023 Mens B Grade Basketball Competition
- 2014-2022 Iona College Basketball Coach
- 2019 UQ EAIT Scholar
- 2019-2020 Team Leader for various university projects
- 2018 College House Captain and Prefect
- 2016-2018 Junior/Senior Link Tutoring
- 2018 Volunteered for Rosies

## REFEREES

Personal and professional references available upon request.