Ben Alvaro

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Education

The University of Melbourne March 2025 – November 2027 (Expected)
Bachelor of Science (Computing and Software Systems) (WAM: 84) *Melbourne, Vic*

Merewether High School January 2019 – September 2024
HSC (ATAR 97.2) *Newcastle, NSW*

Relevant Subjects

Models of Computation, Infomration Security and Privacy, Design of Algorithms, Database Systems, Elements of Data Processing, Object Oriented Programming

Experience

Software Engineer October 2026 – Present
Bilby Labs *Melbourne, VIC*
- Own cloud infrastructure for a practice management SaaS platform serving psychology clinics, deployed on AWS
- Designed a multi-tenant architecture with a dedicated database per clinic, enforcing strict data isolation to protect sensitive patient records
- Streamlined clinic onboarding by choosing a shared application layer over per-clinic AWS accounts, keeping signup friction low without weakening tenant separation

Student ML Engineer December 2023 – Present
Pitcrew AI *Newcastle, NSW (Remote)*
- Contributed to thermal imaging ML model training and troubleshooting including calibration and installation of hardware, including for clients based internationally
- Constructed and executed a model-training pipeline that resulted in a successful model pushed to production
- Utilised Jira, Confluence, CVAT and Slack to effectively supervise annotation process

Lead Software Engineer March 2026 – Present
Melbourne University Racing / University of Melbourne *Melbourne, VIC*
- Led a team of 7 to design, develop and integrate a working firmware and telemetry service for the M26, a Formula SAE Car
- Managed the team wide project to meet tight deadlines, working with and around other sub teams to integrate the system with other parts of the car

IT Director March 2025 – Present
UniMelb CISSA *Melbourne, VIC*
- Released new club website (cissa.org.au) and built internal infrastructure
- Created interactive pages and implemented Website plug-ins using Python, react, and Node.JS

Projects

M26 Formula SAE Car | *C, Zephyr, Python, Embedded Systems* March - December 2026
- Led a team of 7 to develop from the ground up the software for an electric race car, to compete at Formula SAE-A in Tailem Bend, South Australia
- Components involved embedded systems, wireless telemetry for data, and integrating CAN buses on the car

Machine Learning-based Game AI | *Python, PyTorch* June 2025
- Developed a variety of AIs for different games such as Snake & Space Invaders using reinforcement learning
- Implemented using PyTorch for ML process, PyGame for games and other tools for data visualization

Skills and Proficiencies

Languages: Python, C/C++, HTML/CSS, JavaScript, Java, SQL
Developer Tools: VS Code, Visual Studio, XCode, Git, Confluence, CVAT, Jira, Pandas
Soft Skills: Communication, Problem Solving, Project Management, Task Prioritization, Conflict Resolution

Certificates

AWS Certified AI Practitioner, Anthropic AI Fluency