

LUKE MACDONALD

Melbourne, VIC

📞 0407750442

✉ lukemacdonald21@gmail.com

🌐 [linkedin.com/in/luke-macdonald-292a4a208](https://www.linkedin.com/in/luke-macdonald-292a4a208)

🐙 github.com/LukeMacdonald

👤 lukemacdonald-portfolio.vercel.app

Education

Royal Melbourne Institute of Technology

March 2021 – Dec 2023

Bachelor of Science in Computer Science

GPA:3.4

Relevant Coursework

- Full-stack Development
- Algorithms and Analysis
- Artificial Intelligence
- Machine Learning
- Cloud Computing
- Database Management
- Security Testing
- Programming IoT

Experience

RMIT STEM Centre for Digital Innovation

November 2023 – Present

Causal Researcher

Melbourne, VIC

- Continued the development of a system designed to seamlessly integrate university materials with a virtual environment
- Modified Mozilla Hubs' open-source code to add necessary changes that significantly enhance its functionality and customise it to meet certain needs.
- Utilized GitHub Actions to provide a CI/CD pipeline in order to automate the entire process of loading the latest build code and test files, running the tests, and deployment.
- Investigated methods for administering university quizzes within a virtual reality (VR) environment.

Projects

Canvas LMS & Mozilla Hubs Integration Bot | *JavaScript, React, Puppeteer*

June 2023 - November 2023

- Led a team of 5 in the development of a Javascript prototype aimed at seamlessly integrating educational material into a virtual reality environment
- Designed and implemented custom bots, enhancing the functionality of Mozilla Hubs. These bots autonomously created rooms and uploaded objects, streamlining the setup process and ensuring a user-friendly experience
- Worked closely with our client, understanding their unique needs and requirements. Implemented client feedback iteratively, ensuring the final product met their expectations and provided an unparalleled learning experience

Scooter Share App | *Python, Flask, TCP Sockets, Google Cloud Platform*

September 2023 - October 2023

- Created a web application using Python and Flask to allow customers to effortlessly locate, reserve, utilize, and return scooters.
- Implemented a robust web sockets system, facilitating seamless communication between the central master Raspberry Pi and agent Raspberry Pi units mounted on the scooters. This real-time connectivity ensured efficient scooter tracking and management.
- Integrated Google Cloud SQL to handle the database storage efficiently, ensuring scalability, data security, and optimal performance.

Telemedicine Mobile Application | *Java, Sprintboot, Flutter, Docker, MySQL, AWS*

June 2022 - August 2022

- Developed a telemedicine application designed to give patients and doctors a platform to organise appointments and provide a mechanism for easy communication between a doctor and their patient
- Built RESTful APIs that handled the transfer of data between the flutter/dart front-end and the Spring boot back-end.
- Utilised AWS RDS to effectively manage database storage, guaranteeing scalability, data security, and peak efficiency.
- Leveraged Flutter's adaptability to guarantee a consistent and effective user experience on both Android and iOS devices.

Technical Skills

Languages: Java, Python, C#, HTML/CSS, JavaScript, C++, Dart,SQL

Developer Tools: VS Code, Google Cloud Platform, Amazon Web Services, Terraform, Ansible, Docker, Kubernetes

Frameworks: Node.js, React, ASP.NET, SpringBoot, Flask, Flutter

Professional Certifications

AWS Certified Developer - Associate (DVA-C02)

July 2023 - July 2026