Thomas Mikic

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Summary

Junior Software Engineer (Bachelor of Engineering (Honours), Macquarie University, WAM 80+) with hands on experience in AI, embedded systems, web application architecture, linux development and real client interaction. Skilled in modern programming languages including Java, Python and JavaScript, and experienced with backend technologies. Proven record of technical leadership, quantitative research, and developing production grade software. Adept at cross functional communication, direct client training, and translating business needs into technical solutions.

Experience

Software Intern and IT Support

Fusion SD - Lead Management Systems   Jun – Aug 2025

- Developed full stack web features using **TypeScript, React, Firebase, and Firestore**, handling real time data synchronisation and authentication across devices
- Collaborated in an agile team of five developers using **Jira, Git, and GitHub** for task management, version control, and code reviews to deliver production ready features on schedule
- Maintained and refactored backend services in **Firebase Cloud Functions (Node.js)**, improving reliability and scalability
- Optimised **Firestore NoSQL database queries** and improved frontend **React state management** using **React Query and memoisation**, reducing page load times by **20%**

Software Team Lead

QuickSite - AI Website Builder   Apr – Jun 2025

- Led enterprise grade backend development using **Firebase, Firestore, and Stripe API** to enable secure authentication, automated payments, and subscription lifecycle management
- Designed and delivered scalable full stack solutions with **TypeScript, React, Node.js, and Tailwind CSS**, improving maintainability, performance, and cross team development speed
- Mentored three interns through code reviews, pair programming, and weekly technical knowledge sessions, facilitated daily standups and sprint tracking using **GitHub Projects and Jira**
- Built and optimised **CI/CD pipelines** with **GitHub Actions**, automating build, test, and deployment workflows to achieve **zero downtime across 12 releases** and reduce deployment time by **30%**

Software Developer Intern

QuickSite - AI Website Builder   Feb – Apr 2025

- Developed responsive frontend components using **React, TypeScript, and Tailwind CSS**, enhancing UI consistency and improving load performance across devices
- Prototyped **AI driven features** by integrating machine learning and NLP APIs for automated website content generation and user interaction improvements
- Executed comprehensive **unit, integration, and acceptance testing** using **Jest and React Testing Library**, improving code reliability and test coverage under senior developer guidance

Store Assistant

ALDI   Jan 2023 – Jan 2024

- Efficiently supported daily high volume operations, handling point of sale, restocking, and inventory audits.
- Delivered professional customer facing service, resolved issues at checkout, and maintained compliance with company policies.

Team Member

KFC   Sep 2018 – Mar 2019

- Delivered high quality customer service in a fast paced environment, ensuring accuracy and efficiency during peak hours.
- Collaborated with team members to maintain operational flow, hygiene standards, and timely order fulfilment.

Notable Projects

AI Model Compression Thesis (GitHub)   Python, PyTorch, ML Research

- Conducted extensive empirical evaluation of deep learning model compression techniques including **quantisation, pruning, and knowledge distillation**, benchmarking both novel methods and industry baselines
- Designed and implemented custom compression pipelines in **PyTorch** for deployment on **edge and embedded devices**, optimising trade offs between model accuracy, speed, and memory footprint

Microscope Embedded System (GitHub)   Rust, C, Linux, ESP32, 3D Printing

- Engineered an embedded control system for automated physical adjustment of scientific microscopes using **ESP32, servo motors, and 3D printed actuators**
- Integrated **Rust** and **C** modules on a **Linux based controller** for precise motor coordination, error recovery, and real time data streaming
- Produced comprehensive **technical documentation, interface APIs, and assembly schematics** to support reproducibility and cross team collaboration

AI Stock Trader (GitHub)   Python, Reinforcement Learning (PPO/LSTM), Trading Gym

- Developed an autonomous stock trading agent using **Proximal Policy Optimisation (PPO)** with **LSTM networks**, trained on multi year market datasets from **Trading Gym** and financial APIs
- Implemented and backtested **buy/sell/hold strategies** optimising long term portfolio profit and risk, achieving consistent simulated returns above baseline strategies
- Analysed trading policies and model decisions for interpretability using **SHAP values and statistical diagnostics**, providing insights into feature importance and risk exposure
- Authored detailed documentation of **model architecture, hyperparameter tuning, and data engineering pipeline** for open source release

Metro System Controller (GitHub)   Java, C, Python, UDP Networking

- Led development of a master control system for autonomous metro stations, coordinating an **eight member engineering team** across embedded firmware, networking, and backend simulation modules
- Built a scalable **multithreaded architecture** capable of processing over **1,000 concurrent UDP requests per second** with sub millisecond latency
- Designed and implemented **fault recovery, resource allocation, and event logging protocols**, achieving **100% uptime** in realw orld simulation environments
- Authored detailed **interface specifications and protocol documentation**, standardising communication across subsystems and facilitating efficient debugging and integration

Click here for more notable projects

Education

Macquarie University   2022 – 2025

- Bachelor of Engineering (Honours) - Software Engineering
- Weighted Average Mark (WAM): 80+

Glenwood High School   Graduated 2021

- Higher Achievers | ATAR: 90+
- Band 6 in Three Subjects
- First Place in Software Design and Development

Skills

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

Frameworks & Technologies: React, Node.js, .NET, Firebase, Firestore, Stripe API, AWS, Docker, Maven, Tailwind CSS

Technical Skills: Algorithms & Data Structures, OOP, Design Patterns, Concurrency, Machine Learning, API Integration, CI/CD, System Architecture, Agile Development, Performance Optimisation, Linux Development

Professional Skills: Team Leadership, Cross Functional Collaboration, Client Support & Training, Mentorship, Problem Solving, Communication, Time Management, Technical Documentation