Alexander Melocco

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SUMMARY

Pursuing a Bachelor of Computer Science (AI) at UNSW, I bring experience in full-stack development, cloud engineering (AWS certified) and AI research, with additional certifications in machine learning. My SWE experiences include my role at NAB, working in full-stack and cloud engineering. At NAB, I worked creating a project modernizing NAB's internal team evaluation software, which is now being put into deployment. At TutorMatch, I developed a hybrid content-based filtering search algorithm, increasing user satisfaction by 65% over three months. Additionally, I engaged in AI research and data acquisition to support ESG risk management models in my SWE internship at FairSupply and worked in the backend implementing AI leveraged medical processing/prediction at Horizon Labs. I also am deeply committed to social impact, volunteering and participating in ventures like ENACTUS, where I competed in Melbourne's 2023 and 2024 National Social Impact competitions.

WORK EXPERIENCE

National Australia Bank (NAB)   **Melbourne, AUS**

Full Stack and Cloud Software Engineering Internship.   *Nov 2024 – Feb 2025*

- **Trained in AWS/Azure Cloud platforms:** Achieved AWS certification and gained hands-on experience with cloud infrastructure and services, including resource provisioning, deployment pipelines and monitoring.
- **Capstone project success**: Developed internal team evaluation software working as a full-stack and creative lead. Initial testing demonstrated a 25% improvement in team satisfaction through better skills matching. This project is currently under review for full deployment.

Horizon Labs   **Sydney, AUS**

Backend Software Engineering Internship   *Aug 2024 – Oct 2024*

- **Backend developer at Horizon Labs:** A medical, AI-driven technology company focused on predicative health
- **Restful API's:** Worked on implementing RESTful APIs using Fast Api's architecture, managing relational databases with SQL Alchemy, and handling cloud management using Microsoft Azure.
- **Backend Dev Team Lead:** Led backend development sprints and helped the team move from a horizontal to vertical setup for better collaboration and efficiency.

FairSupply Pty Limited   **Sydney, AUS**

Software Engineering Internship   *July 2024 – Nov 2024*

- **AI Research and Data Acquisition:** Conducted research, data acquisition and developed AI models used for ESG risk management, with a specific focus on modern slavery.
- **ML Classification Model Development:** Built classification models and search terms to enhance web scraping and data validation processes. Approximately 40% increase in sentiment accuracy over previous models.
- **Automation:** Automated search tasks, improving data acquisition from 5 to 3 weeks from previous attempts

Elevate Consulting Partners   **Sydney, AUS**

Hybrid Software Engineering/Legal Internship   *June 2024 – Aug 2024*

- **Worked in SafeSpace@Elevate:** A legal/regulatory compliance platform to target workplace harassment and enhance safety with a specialization in larger workplaces, backed by legal/psychiatric industry experts.

- **Developed an AI-based system to summarize user sentiment**: Allows comprehensive reports to inform clients of workplace issues, general sentiments, including timelines and trends related to a range of metrics
- **Extensive software testing:** Including unit testing and extended workflows, ensuring quality and reliable code

FOUNDING EXPERIENCE

Mira (Previously Trimmer)   Sydney, AUS

Technical co-founder   *Oct 2024 – Present*

- **Technical Co-founder of Mira**: Leading full-stack development team. https://trimmer.software/waitinglist
- **UI/UX development:** Led the design and implementation of responsive, user-friendly interfaces using React, Next.js, and Tailwind CSS. Currently finalizing the MVP, slated for early 2025 release.
- **Database design:** Implemented and optimized the backend using Supa base, integrating a PostgreSQL database to ensure scalability and efficient data management.
- **Team lead:** Leading development of the MVP with three SWE interns.

TutorMatch AU   Sydney, AUS

Technical co-founder   *Oct 2023 – Sep 2024*

- **Technical Co-founder of TutorMatch**: tutormatch.com.au
- **Search algorithm:** Developed and deployed an AI-based hybrid content-based filtering search algorithm to personalize student-tutor matches, leading to 65% increases in user satisfaction feedback over 3 months
- **Developed backend architecture**: Supports the platform's functionalities including future scalability concerns
- **RESTful APIs:** Implemented to reduce backend computational load, measurably increasing site speed by ~30%
- **Managed cloud infrastructure**: Ensuring reliable and efficient service delivery (utilized AWS services)
- **Client management**: Engaged with clients, conducted market research and business management

TECHNICAL SKILLS

Coding Languages

Python, Java, C++, C, JavaScript/Typescript, CSS, HTML, Rust, PHP, SQL

Programming skills (non-exhaustive)

- Machine learning AI algorithm/model development – Multiple ML certifications
- Full stack software engineering
- AWS Certified, experience in Azure and GCP
- API development and integration
- Data analysis, acquisition, research and visualization (Pandas, Matplotlib, etc.)
- Socket Programming

EDUCATION & QUALIFICATIONS

- **Coursera Machine Learning Specialization Certificate 2024**
- **Coursera Deep Learning Specialization Certificate 2024**
- **UNSW (2025 expected graduation)**
  - Bachelor of Computer Science (AI)/Law – Computer Science WAM 75+
  - 2023 Enactus National Social Impact Competition finalist, 2024 Enactus National Social Impact Competition 2nd Place
  - 2023 Beginners Mooting, Client Interviewing and Negotiations
- **Knox Grammar School**
  - 99.30 ATAR (All Rounder), Premier's Award for All around excellence, Prefect, KGSACU Cadets – Cadet Under Officer (Medical)