

Malcolm Lett

Machine Learning Engineer
Full-stack Software Engineer
Technical Lead
On-site | Remote

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PROFESSIONAL SUMMARY

Experienced Software Engineer | Transitioning to AI/ML | Proven Innovator

Experienced software engineer and technical lead with 15+ years in full-stack development, now applying engineering expertise to solve machine learning challenges.

Holds recent certifications in Machine Learning and Data Science, building on earlier post-graduate research in AI and a long-standing interest in human cognition. Active contributor to the ML community through a technical blog and open-source TensorFlow-based toolkit for visualizing model dynamics during training. Motivated by complex, high-impact problems in machine learning and intelligence systems, combining theoretical insights with hands-on experimentation.

Widely endorsed by managers and colleagues for consistently exceeding expectations and delivering beyond the role brief (see LinkedIn). Seeking an AI/ML or MLOps role that benefits from deep software experience and a strong foundation in machine learning.

SKILLS

Machine Learning: Computer Vision, SLAM, Data Visualization. TensorFlow, Scikit-learn, OpenCV, Numpy, Pandas, Python, R, SQL.

ML/Data Science (exposure): Regression, Classification, Recommenders, Reinforcement Learning, Sequence Models, Probability Distributions, Statistical Tests, Bayesian Logic. Structured and unstructured data, feature engineering, model training, hyperparameter tuning, model evaluation.

Application Development: Spring, Java EE, Hibernate, REST APIs/Microservices, OAuth/OIDC, SQL, HTML, CSS, jQuery, Java, Javascript/Node.js, linux shell scripting

Application Deployment: CI/CD, AWS, Kubernetes/OpenShift/Docker, Site Reliability (Splunk, Dynatrace, others).

Distinctive Capabilities: Knowledge sharing and presentation, mentoring, team leadership, research & analytical skills, proven ability on challenging technical problems (eg in, application performance optimisation, security analysis, multi-threaded software).

EXPERIENCE

Professional Development: Machine Learning and Data Science

Jan 2024 – Present

Extending existing theoretical AI background with practical upskilling in the areas of Data Science and Machine Learning.

- Obtained certificates in Data Science (IIT Madras) and Deep Learning (Coursera/Stanford).
- Created FOSS TensorFlow toolkit with novel visualization techniques and associated blog posts ([link](#), or see below).
- Author of technical blog on deep learning, published to AI Advances online magazine ([link](#)).
- Studied countless academic ML papers on Computer Vision, Transformers/LLMs, and training fundamentals.
- Computer Vision and SLAM skills demonstration in the form of a Robovac NN project ([link](#), or see below).

Senior Software Engineer | Contract | Remote

Jan 2024 – Apr 2025

RHE Infrastructure Services | NZ

Tech stack upgrade for e-asTTle, a NZ online exam web-platform of national significance, built on Java EE and RedHat EAP. This work was part-time while also doing professional development in AI/ML and Data Science.

- Reduced codebase by 30%, improving maintainability.
- Resolved connection management issues and memory bottlenecks in a JMS application, reducing horizontal scaling costs from 20 server instances to 3.
- Established monitoring framework used in performance testing. Identified & resolved a memory leak and other performance issues. Ensured ability to meet expected 50% growth in demand over next 12 months.
- Produced a Software Architecture Document in just 3 days, far exceeding client's expectations for quality, completeness, and depth.

Technical Lead | Contract | On-site & Remote

Dec 2021 – Dec 2023

Kiwibank | NZ

Led 6-person team and implemented ForgeRock Identity Platform for customer Identity and Access Management. The latter half of the engagement with Kiwibank was remote from India.

- Smooth go-live transition to 300,000 customers without issue.

Technical Lead | Contract

Jul 2016 – Nov 2021

Australia NZ Bank | NZ

Implemented token-based security for internal microservice APIs and Open Banking.

- Designed and built 6 highly-available microservices forming the key backbone for API security across customer, staff, and open-banking channels. Regular traffic exceeded 8k req/min through the system.
- Led teams from 3 to 6 people.
- Advocated for Lightweight Release Principles. Regularly deployed to production during business hours while maintaining high availability at peak traffic. Instrumental in improving the practices of another team, improving release cadence from monthly to weekly.
- Identified and resolved 3 major production security vulnerabilities before they were compromised.
- 6 months doing .Net Core development without prior .Net experience.
- Ran ~10 training sessions covering OAuth, OIDC, FAPI, and Lightweight Release Principles.

Earlier roles

Past – Jul 2016

Earlier software development and technical leadership experience.

PROJECTS

Training Instrumentation Toolkit

[Github link](#)

TensorFlow toolkit for model training instrumentation and visualization.

NN for Robovac

[Github link](#)

2D computer vision

Cognition & Intelligence Research

[Website link](#)

Research and theory development on the computational-functional mechanisms for human intelligence and cognition (10 years).

- Developed the Meta-management Theory of Consciousness, a functional theory of auto-correcting cognitive trajectories and their importance for intelligence and self-aware thought.
- 1 conference presentation and 2 attempted paper submissions.
- Read 100s of papers and books on a wide range of topics including neural biochemistry, theories of brain function, developmental science, evolution, AI, and philosophy. Gained a unique perspective and intuition for a wide range of biological and artificial learning algorithms and architectures, which are key to the future of AI.

PUBLICATIONS

Lett, M. (2024). The Meta-management Theory of Consciousness.

[Video link](#)

Presented at: The Science of Consciousness Conference (TCS'24), Tucson, Arizona, 2024.

Lett, M. (2006). 3D Surface Recognition For Robotic Localisation.

MSc dissertation. The University of Waikato, New Zealand.

Lett, M., & Zhang, M. (2004). New Fitness Functions in Genetic Programming for Object Detection.

[Link](#)

BSc dissertation. Victoria University of Wellington, NZ.

CERTIFICATES

Deep Learning Specialization – Coursera/Stanford University/DeepLearning.AI (2024)

[View credentials](#)

Machine Learning Specialization – Coursera/Stanford University/DeepLearning.AI (2024)

[View credentials](#)

Data Science for Engineers – NPTEL/IIT Madras (2024)

[View credentials](#)

Professional Scrum Master (PSM I) – Scrum.org (2021)

[View credentials](#)

EDUCATION

Master of Science with Honours (1st Class) - Computer Science

University of Waikato (New Zealand)

Bachelor of Science with Honours (1st Class) - Computer Science

Victoria University of Wellington (New Zealand)