Timothy Micheletto

Staff MLOps Engineer | Engineering Leader

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PROFESSIONAL SUMMARY

Engineering leader and Staff Engineer with 20+ years of experience designing distributed systems at scale. Specialized in bridging the gap between Applied Science and Product Engineering to ship TB-scale inference pipelines and GenAI products. Proven track record of driving architectural strategy and shipping velocity, bringing a rigorous software engineering mindset to the challenges of scaling ML in production.

TECHNICAL SKILLS

Languages: Python, Go (Golang), TypeScript/NodeJS, SQL, Scala, C#

MLOps & Data: Dask, Prefect, TensorFlow, RAG, Batch Inference, Model Observability, Snowflake, Postgres, DynamoDB

Cloud & Platform: AWS (EKS, ECS, Lambda, Kinesis), Kubernetes, Terraform, Docker, FastAPI, Event-Driven Architecture

EXPERIENCE

Xero   Melbourne, Australia

Senior Engineer - Machine Learning (Research Team)   *Sep 2024 – Sep 2025*

- Architected a **specialist model orchestrator** to maximize precision, implementing logic to dynamically select optimal predictions from an ensemble of specialist models.
- Engineered **TB-scale distributed data pipelines** utilizing **Dask** and Python to perform batch inference on multi-terabyte datasets, establishing the foundational framework for offline model evaluation.
- Core contributor to the engineering delivery of **JAX (Just Ask Xero)**, a headline GenAI feature announced at XeroCon 2025, specifically focusing on the automated bank reconciliation model.
- Established reproducible data foundations by building automated pipelines to generate training/validation datasets from OLTP sources, significantly accelerating experimentation cycles for Applied Scientists.

Engineering Manager - Machine Learning   *Sep 2023 – Sep 2024*

- Led the end-to-end engineering delivery of Xero's first **GenAI product** (RAG-based customer support agent), coordinating cross-functional alignment between Applied Science and Customer Experience teams.
- Designed and executed the organizational restructuring of a 14-engineer team into 3 domain-aligned pods, resulting in optimized delivery velocity and reduced communication overhead.
- Managed 9 direct reports—personally recruiting 3—and designed the department-wide interview loop to establish rigorous standards for MLOps competencies.
- Championed the unified **Batch Inference Platform** initiative, standardizing architectural patterns for all batch AI products to eliminate fragmentation and reduce technical debt.
- Directed the technical implementation of GDPR "Right to be Forgotten" workflows across distributed data stores, ensuring compliance without disrupting production availability.

Staff Engineer - Data Applications   *Mar 2022 – Sep 2023*

- Architected and led the implementation of the Cash flow Understanding and Prediction Service (CUPS) utilizing **Prefect** for orchestration; led the project from inception to General Availability (GA).
- Designed distributed batch inference pipelines processing terabytes of data daily, generating cash flow predictions for the entire Xero customer base.
- Standardized **Terraform** patterns for IAM Roles, significantly reducing infrastructure provisioning time for new ML services.
- Built high-throughput, low-latency APIs (**FastAPI/AWS EKS/DynamoDB**) to serve predictions to millions of customers.
- Defined and implemented SLIs/SLOs for ML services to ensure high availability and enable proactive, data-driven incident response.

Senior Engineer - Data Applications   *May 2021 – Mar 2022*

- Accelerated the deployment of heuristic cash flow models by building automated CI/CD pipelines for Python packages, reducing deployment friction between Science and Engineering.

Latitude Financial Services   Melbourne, Australia

Lead Software Engineer   *Apr 2020 – May 2021*

- Spearheaded the architectural transformation of the Identity Platform (**Okta/Golang**), enabling Single Sign-On (SSO) for millions of customers.
- Executed the migration of legacy user bases from AWS Cognito to Okta with zero downtime.
- Acted as Technical Product Manager for a platform team of 4 engineers, defining roadmap requirements and driving execution.

SEEK   Melbourne, Australia
Principal Software Developer   *Jul 2018 – Mar 2020*
- Selected for a high-priority "Tiger Team" to decompose legacy monoliths into modern cloud-native microservices (**AWS ECS/TypeScript/DynamoDB**) using the **Strangler Fig pattern**.
- Led the implementation of a Resume Parsing pipeline (Scala) and a serverless Profile Nudge System (AWS Lambda) to interactively capture missing profile attributes and enrich the candidate data graph.

Senior Software Developer   *Mar 2016 – Jul 2018*
- Developed event-driven microservices (NodeJS/AWS SNS/SQS) to power real-time candidate feedback loops.
- Integrated complex variable pricing logic into high-traffic C# ASP.NET monoliths.

Leica Biosystems   Melbourne, Australia
Senior Software Engineer   *May 2013 – Mar 2016*
- Developed IoT-style monitoring dashboards for pathology laboratory equipment using AngularJS and C#.
- Built the Inventory Manager application to optimize consumable reordering for lab supervisors.

Early Career   2003 – 2012
Various Roles: Integration Consultant, Lead Developer, Graduate   *UK & Australia*
- Enterprise Integration Consultant — Various Contracts (UK) (2008 – 2012)
- Lead Integration Developer — Linfox (2007 – 2008)
- Consultant / Graduate — Oakton / Downer (2003 – 2006)

EDUCATION & CERTIFICATIONS

RMIT University   Melbourne, Australia
Bachelor of Engineering (Computer Systems)   *2000 – 2002*
Certifications: DeepLearning.AI: Agentic AI (Nov 2025) | Stanford University Online: Machine Learning Specialization (Oct 2025)

INTERESTS

Surfing, Motorcycles, Crossfit, Machine Learning, Data Engineering