William Manley

Machine Learning Engineer

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OVERVIEW

Diligent, motivated Machine Learning Engineer and MSc Mathematical Sciences graduate. Three years of combined industry and research experience applying machine learning techniques to solve complex, real-world challenges. Adept at framing business problems into machine learning tasks and engineering true end-to-end solutions. A proven communicator, effective in both collaborative and independent work environments.

EDUCATION

University of Oxford *October 2020 – June 2022*
MSc Mathematical Sciences *Oxford, UK*

- Specialized in mathematical and computational modeling of environmental and biological systems.
- Wrote extensive dissertation titled "The Magneto-Active Elastica: Coupling Classical Theories of Elasticity & Magnetism", which was highly commended.
- Received a full academic scholarship from Roche, a world-leading pharmaceutical company.

University of Bath *September 2017 – June 2020*
BSc Mathematics *Bath, UK*

- Graduated with First-Class Honors.
- Beyond core modules, focused on physics, computational modeling, probability and statistics.
- Awarded a competitive scholarship involving professional skills training, over 50 hours of annual volunteering work, and university representation through public speaking and leadership at events.

INDUSTRY EXPERIENCE

Machine Learning Engineer, **Origin Digital** *July 2022 – December 2024*
Data & AI Team *Oxford, UK*

- Extracted actionable agricultural insights from geospatial data to support data-driven farmland management.
- Led development of an application that predicted crop planting dates from multi-modal data sources: satellite imagery, weather, and soil readings. Trained and deployed a multivariate LSTM model and designed an ETL pipeline with AWS Glue and Step Functions for automating the production of model datasets.
- Pioneered company adoption of MLOps practices. Implemented model deployment pipelines utilizing AWS SageMaker, Docker, and CI/CD workflows. Empowered scalable, reliable and agile production ML.
- Won company hackathon by developing an ML-powered tool that extracted field boundaries from satellite imagery by fine-tuning a foundation model. Enabled users to point and click on a field and receive precise GPS coordinates of the field boundary to aid the customer on-boarding process.
- Developed an application to generate crop yield maps and partition fields into high/low performance zones by applying geostatistical methods such as kriging to spatial crop yield data. Allowed informed, data-driven management practices to be made for precision agriculture.
- Integrated code into a professional, enterprise-grade Python codebase. Wrote comprehensive unit, integration, and end-to-end tests to ensure robustness of ML applications.
- Authored clear, explanatory technical documentation to facilitate company knowledge transfer and maintainability of ML applications.
- Collaborated with project managers, engineers, and stakeholders within agile sprints to deliver ML solutions. Demoed progress and created informative data visualizations to communicate insights.

Machine Learning Intern, **AgSpace** *June 2021 – August 2021*
Internship *Oxford, UK*

- Assisted in training a CNN model to classify agricultural crop types from satellite imagery.
- Built and curated training, validation, and test datasets. Performed necessary data pre-processing techniques and defined evaluation metrics to assess model performance.
- Gained hands-on experience working with diverse geospatial data sources, RESTful APIs, and optimizing SQL queries for performance.

RESEARCH EXPERIENCE

Micron, **University of Oxford** *June 2019 - August 2019*
Bioimaging Research Lab *Oxford, U.K.*

- Designed and engineered software for MicroscoPi - an automated microscopy imaging platform coupling computer vision software with microscope hardware.
- Developed novel computer vision algorithms including utilizing the Fourier Transform to auto-focus onto a biological slide sample.
- Gained valuable experience in research methodology and adaptability. Presented research to academics and participated in peer-review workshops.
- Participated in a two week intensive software engineering course including Python, version control in Git, scripting, and machine learning.

PROJECTS

Full portfolio showcasing all of my personal projects available at: trained-by-will.com.

MCP Server Toolkit for AI Agents *In Progress*
github.com/willmanley/mcp-servers

Expanding a suite of MCP servers that permit AI agents to interact with external resources and tools, enabling context-aware LLM driven applications; including support for APIs, databases, and RAG knowledge bases.

TECHNICAL SKILLS

Technologies	Python, AWS, SQL, Git, TensorFlow, PyTorch, sklearn, Docker, Terraform, Bazel, GitHub Actions, MLflow, Rust.
Domains	AI/ML, Computer Vision, Time Series, NLP, Generative AI, Agentic AI, RAG, API Development, MLOps, CI/CD, Microservices, Automation.

CERTIFICATIONS

AWS Certifications *Expiration: March 2028*
Amazon Web Services

Hold three AWS certifications: **AWS Machine Learning Engineer – Associate**, **AWS AI Practitioner**, and **AWS Cloud Practitioner**. Validates expertise in architecting and deploying scalable, production-grade ML workflows in secure AWS cloud environments.

TensorFlow Certifications *Expiration: July 2026*
Google

Earned the **TensorFlow Developer Certificate**. Demonstrates proficiency in building and training models for computer vision, natural language processing, and time series forecasting workflows using TensorFlow.

Terraform Certifications *Expiration: September 2026*
Hashicorp

Certified **Terraform Associate**. Confirms practical knowledge of infrastructure as code, provisioning, and managing cloud resources via Terraform.