

ANTHONY FAUSTINE

Data Science Leader | Strategic AI Architect & Applied Research Innovator

@ sambaiga@gmail.com <https://sambaiga.github.io> [@sambaiga](https://twitter.com/sambaiga) [in sambaiga](https://www.linkedin.com/in/sambaiga/) github.com/sambaiga

PROFESSIONAL SUMMARY

Highly accomplished leader in Artificial Intelligence and Machine Learning with over eight years of experience delivering scalable AI/ML solutions and data analytics for business problem. Expert in architecting and governing production-ready MLOps pipelines, leveraging Agile methodologies, and leading cross-functional teams. Proven success in strategic roadmap development, aligning AI strategies with organizational objectives to drive innovation, and sustaining competitive advantage. Strong experience in executive communication and presenting at international conferences (IEEE, CIRED)..

CORE COMPETENCIES

- Proficient in end-to-end AI/ML pipelines, including model design, deployment, and governance (versioning, drift detection, compliance), using Python (pandas, numpy, scikit-learn, xgboost, lgbm and catboost), PyTorch, TensorFlow.
- Skilled in MLOps Best Practices with Docker, MLflow, CI/CD pipelines (GitHub Actions), and Cloud Platforms (AWS, Data-bricks), ensuring production-grade scalability.
- Leadership in AI-driven innovation, digital transformation, and strategic decision-making.
- Expert in Time Series Forecasting, Anomaly Detection, Predictive Maintenance, and Non-Intrusive Load Monitoring (NILM).
- Strong stakeholder communication, delivering executive briefings and international conference presentations (IEEE, CIRED).
- Skilled in Agile methodologies and Kanban, leading sprints to deliver high-impact AI projects on time.
- Architected machine learning observability platforms featuring real-time drift detection (Evidently) and performance monitoring (WandB).
- Proven experience in strategic roadmap development, innovation management, and cross-functional team leadership.

EXPERIENCE

Lead Data Scientist

Eaton

Sept 2022 – Present

Dublin, Ireland

- Architected a scalable load forecasting pipeline for autonomous grid systems by integrating Time Series Models and Deep Neural Networks (LSTM, NHITS), successfully reducing prediction errors by 25%.
- Automated MLOps workflows using Docker, GitHub Actions CI/CD, and Airflow-driven retraining with Optuna, which cut feature rollout timelines by 30%.
- Spearheaded the end-to-end development of an AI-driven substation analytics platform, implementing Anomaly Detection (Isolation Forest, Mahalanobis distance) to prioritize maintenance, resulting in a successful transition to a scalable SaaS product.
- Architected a robust machine learning observability platform featuring real-time drift detection (Evidently), performance monitoring (WandB), and automated retraining triggers (Airflow).
- Delivered AI technical briefings and solution demos to executives and non-technical stakeholders, and represented Eaton at 3 international conferences (Italy, France and Norway).
- Awarded 2024 Eaton-STAR Leadership in Data Science Award for 25% improvement in forecasting accuracy and excellence in innovation.

Senior Industrial Analytics Researcher

Irish Manufacturing Research

Apr 2021 – Aug 2022

Dublin, Ireland

- Directed the Data-Driven Maintenance Service (DDMS) project using Agile methodologies, implementing IoT-driven predictive maintenance which reduced unplanned downtime by 30% and increased Overall Equipment Effectiveness (OEE) by 25%.
- Engineered a predictive maintenance platform for CNC machines leveraging unsupervised machine learning and Hidden Markov Models (HMMs) to monitor spindle health.
- Developed and deployed AI-driven computer vision inspection systems for Industry 4.0, using Deep Learning for anomaly detection, which reduced defect detection time by 40% and improved operational efficiency by 20%.
- Established MLOps best practices with model versioning and automated monitoring, accelerating development efficiency by 25% and enabling scalable, production-grade analytics deployments.

Data Scientist & ML Researcher

CeADAR

⌚ Feb 2020 – Mar 2021

📍 Dublin, Ireland

- Developed a scalable load-profiling system using deep neural variational autoencoders and K-means clustering to segment 10000+ building load profiles.
- Implemented cluster-specific demand forecasting with Bayesian state space models (SSMs), improving prediction accuracy by 22% and reducing peak-load planning errors by 18%.
- Led the development of an automated satellite imagery labeling pipeline integrating geospatial data with Sentinel-2 imagery to train object detection models (UNET).
- Deployed a scalable workflow (Python, GDAL, Docker) to generate 1K+ labeled training samples with 95% annotation accuracy, reducing manual labeling efforts by 70%.

Machine Learning Researcher

IDLab, imec, Ghent University

⌚ Oct 2017 – Oct 2019

📍 Ghent, Belgium

- Developed a novel computer vision framework for Non-Intrusive Load Monitoring (NILM) using V-I trajectory and CNNs, improving detection accuracy by 35%.
- Designed and deployed a machine learning pipeline for smart-home event detection, leveraging multimodal sensor data to achieve 92% detection accuracy.
- Secured project funding by collaborating with industrial partners on grant proposals, attracting over 500K in research capital to advance NILM and smart-home AI development.

EDUCATION

PhD in Computer Science & Engineering

Tecnico Lisboa

⌚ 2021–2025

📍 Portugal

- Researched and Developed probabilistic forecasting models and AI-driven energy analytics to optimize power grid efficiency and support energy transition.
- Mentored and supervised 3+ MSc students, guiding thesis development and research execution, demonstrating early-career team leadership and development skills.

MSc in Leadership, Technology & Innovation

Technological University Dublin

⌚ 2022–2023

📍 Ireland

- Created the AI Business Innovation and Strategic AI Roadmapping Frameworks, enabling organizations to integrate AI and maximize ROI (First-Class Honours).

M.S. in Telecommunications Engineering

The University of Dodoma

⌚ 2010–2012

📍 Tanzania

- Built wireless sensor systems to monitor water quality at Lake Victoria, laying groundwork for data-driven solutions.