ABIN ZORTO

MACHINE LEARNING ENGINEER

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Machine Learning Engineer specializing in customer analytics and marketing optimization, with expertise in lifetime value modeling and causal inference. Proven track record of developing and deploying end-to-end ML solutions that drove 30%+ improvements in prediction accuracy and customer insights. Experience in marketing mix modeling and building scalable data pipelines that process millions of customer interactions. Strong focus on cross-functional collaboration and autonomous project delivery.

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, C++, C#, R, SQL, NoSQL, Scala

Machine Learning & Data Science: NumPy, Pandas, TensorFlow, PyTorch, Scikit-learn, Matplotlib, Seaborn, PySpark, NLTK, LangChain, LlamaIndex, Hugging Face Transformers

Cloud & Infrastructure:

- Azure: Machine Learning, Databricks, Functions, Kubernetes Service, DevOps, Active Directory, DataLake
- AWS: EC2, S3, Lambda, SageMaker, Glue, ECS, RDS, CloudWatch, CloudFormation

Development & DevOps: Terraform, Docker, Kubernetes, Git, GitHub Actions, Jenkins, GitLab, MLflow, Weights & Biases, Model Registry, Feature Store

GenAI & MLOps: LangChain, LlamaIndex, Hugging Face Transformers, MLflow, Weights & Biases, Model Registry, Feature Store

EXPERIENCE

Senior Research Assistant

University of East London September 2023 – July 2024

- Developed customer lifetime value (LTV) models processing 1M+ customer interactions, achieving 88% prediction accuracy and enabling targeted marketing strategies
- Implemented marketing mix models to optimize resource allocation across channels, resulting in 25% improved ROI
- Built causal inference models to measure campaign effectiveness, identifying 30% uplift in customer engagement
- Engineered REST APIs handling 50,000+ daily requests for model serving using FastAPI and Docker
- Created automated A/B testing framework for marketing campaigns, improving conversion rates by 22%
- Secured £50,000 research grant and led an 8-person team investigating vector-borne disease proliferation using GenAI models.
- Engineered an ML pipeline processing 100,000+ data points, achieving 92% prediction accuracy.
- Architected a data visualization framework reducing analysis time by 40% and boosting stakeholder engagement by 25%.
- Orchestrated deployment of 3 production ML models using TensorFlow and PyTorch, increasing reliability by 35%.
- Pioneered a bias detection system analyzing 5 key metrics, improving model fairness scores by 28%.
- Scaled serverless computing infrastructure handling 50,000+ daily requests using Azure Functions.
- Established an automated CI/CD pipeline reducing model deployment time by 50
- Implemented GenAI solutions using LangChain and Hugging Face, reducing data processing time by 40%.
- Established MLOps practices reducing model deployment cycle from 2 weeks to 2 days.
- Built customer segmentation models achieving 85% accuracy in predicting customer behavior.
- Collaborated with cross-functional teams to integrate ML solutions into existing business processes, enhancing customer insights and driving strategic decisions.

Teaching and Research Supervisor

University of East London May 2023 – September 2023

- Mentored 15 graduate students, achieving a 93% project completion rate.
- Spearheaded 12 technical workshops reaching 100+ students, boosting engagement rates by 40%.
- Redesigned course materials for 3 modules, elevating student satisfaction scores by 20%.
- Guided 30 students to achieve a 35% improvement in research paper quality.
- Mentored 5 students to successful publication, achieving a 40% increase in department publication rate.

Junior Research Assistant

University of East London September 2022 – May 2023

- Architected healthcare ML models achieving a 30% improvement in diagnosis accuracy.
- Published 2 papers in Q2 journals (Impact Factor: 5), cited by 50+ researchers.
- Delivered 5 conference presentations reaching 1,000+ academic audience members.

- Optimized data processing pipeline to handle 5TB+ of medical data using PySpark.
- Designed analytics workflow reducing query time by 60% using Azure Synapse.
- Collaborated with medical professionals to develop AI-driven diagnostic tools, enhancing patient outcomes.

Retention Specialist

Direct Line Group January 2022 – March 2022

- Managed 200+ monthly customer interactions achieving a 95% satisfaction rate.
- Formulated stakeholder feedback system capturing 50% more actionable insights.
- Contributed to a 15% reduction in customer churn through data-driven engagement strategies.
- Generated weekly analytics reports tracking 20+ KPIs for the executive team.
- Achieved top 10% performance rating among 50+ specialists.

RESEARCH PUBLICATIONS

scholar.google.com/citations?hl=en&user=1yjR8x8AAAAJ (click to view)

- Authored ML-based keratoconus diagnosis paper achieving an 85% accuracy rate - **Informatics in Medicine Unlocked** (Impact Factor: 5.2) (Citations: 5+)
- Pioneered novel GAN architecture improving sepsis diagnosis accuracy by 25% - **Applied Computational Intelligence**

TECHNICAL PROJECTS

github.com/AbinZorto (click to view)

Computer Vision & Deep Learning

- Engineered YOLOv4 detection system achieving 64% accuracy on 50,000+ video frames for COVID-19 compliance.

MLOps & Infrastructure

- Orchestrated an ML deployment system reducing the release cycle from 24 hours to 6 hours across 3 environments.
- Scaled compute infrastructure supporting 200+ concurrent users with 99.9% uptime.
- Optimized CI/CD pipeline reducing build times by 40% for 20+ microservices.
- Automated resource provisioning cutting deployment costs by 35%.
- Integrated GenAI tools into CI/CD workflows, enhancing deployment intelligence and automation.

NLP & Document Processing

- Spearheaded a document analysis system processing 10,000+ pages daily with 92% accuracy.
- Integrated 5+ Azure Cognitive Services achieving a 40% improvement in text extraction.
- Scaled Kubernetes deployment to handle 100+ concurrent processing requests.
- Developed GenAI-based chatbots for automated document classification, improving processing speed by 50%.

Customer Analytics Platform

- Developed an end-to-end customer behavior prediction system processing 1M+ daily interactions.
- Implemented an A/B testing framework improving marketing campaign effectiveness by 25%.
- Deployed GenAI-powered customer service automation reducing response time by 60%.
- Leveraged MLOps practices to maintain and update predictive models, ensuring continuous improvement.

EDUCATION

PhD in Computer Science May 2023 – May 2026
University of East London
Research Focus: A Multimodal Computational Intelligence Approach to Neurophysiological Predictors of Transcranial Direct Current Stimulation for Depression Treatment

MSc Computer Science January 2021 – January 2023
University of East London Grade: Distinction (96%)
Thesis: Developed an ML system improving medical diagnosis accuracy by 30%

MSc Advanced Robotics September 2019 – September 2020
Queen Mary University of London Grade: Distinction (81%)
Thesis: Created an autonomous system reducing navigation errors by 55%

BEng Mechanical Engineering September 2016 – June 2019
The University of Manchester Grade: 2:2 (55%)
Final Project: Led a 4-person team to design an automated system improving efficiency by 30%