Hamza imloul

ML Engineer — AI Infrastructure
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Machine Learning Engineer with a deep foundation in Mathematics, Operations Research and Software developement. Specializing in the architecture of AI Systems and Inference Optimization. Proven track record in transitioning complex data-driven models into production-grade enterprise microservices.

Experience

Machine Learning Engineer **Remote/Hybrid**
DXC Technology *09 2022 – Present*

- **Agentic System Architecture:** Designed an agentic orchestration layer enabling automated data extraction and processing; implemented stateful workflows reducing manual overhead.
- Architected a production-grade information retrieval system integrated with client APIs, ensuring deterministic execution and full traceability for regulated decision-making.
- **Inference Optimization:** Engineered a scalable fine-tuning pipeline for bi-encoders and cross-encoders using synthetic data and hard-negative sampling; achieved objective latency SLAs for Top-5 retrieval.
- Authored 3 internal strategic white papers on AI Roadmap and led technical workshops for a team of 15+ developers.

Backend Developer **Remote**
Independent Consultant *02 2021 – 08 2022*

- Collaborated with multiple clients including Q2M2 (Denmark) on the development of custom modules integrated within frameworks and products.
- Developed Docker environments for the reproducible deployment of statistical models onto Azure Cloud.

Operations Research Engineer **Agadir, Morocco**
Mixtra *09 2019 – 10 2020*

- **Real-time Fleet Intelligence:** Developed a geospatial ETL pipeline for 100+ vehicles using streaming data to detect anomalies and optimize route compliance for dispatchers and stakeholders.
- **Operations Research:** Implemented a capacitated routing optimizer (VRP) that increased vehicle utilization and significantly reduced "empty mile" costs.

Data Science Intern **Casablanca, Morocco**
Shell & Vivo *02 2018 – 06 2018*

- **Decision Support:** Built an Equivalent Annual Cost (EAC) tool to standardize asset renewal cycles, directly impacting long-term maintenance expenditure forecasting.

Technical Skills

Core Tech: Python, C++, JavaScript, R, Shell Scripting

AI & Data: PyTorch, Transformers, LLM Ops, Vector DBs, OpenCV, VLM

Infrastructure: AWS (EC2, ECS, Lambda, Step Functions), Docker, Terraform, Jenkins, GitHub Actions

Languages: English (Fluent), French (Fluent), Arabic (Native)

Education

Mohammadia School of Engineering (EMI)
Master of Engineering, 2018
Relevant Coursework: Signal Processing, Control Engineering, Discrete optimization, Operations Research.

Ibn Zohr University
Associate of Science in Mathematics, 2014
Focus on Abstract Algebra, Real Analysis, Classical Physics, and Computer Science.

Current Pursuits

- Exploring CUDA kernels, Edge ML deployment, and inference optimization.
- Deepening knowledge in Nonlinear Systems Control and Reinforcement Learning.