# Otmane El Bourki

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## EXPERIENCE

### AI Engineer Intern
*Tetricks – AI-Driven Hospitality Solutions* ⊕
Jun 2023 – Jun 2024
*Sidi Slimane, Morocco, Remote*

- Architected and deployed production-grade ML pipelines for request classification on GCP, achieving **47% reduction** in operational costs through automated workflow optimization and efficient resource utilization
- Designed and implemented a RAG-based chat application processing guest inquiries, achieving **50% improvement** in customer satisfaction and optimizing deployment through GCP services (Cloud Run)
- Implemented advanced LLM optimization techniques including fine-tuning and quantization, delivering **3X faster** inference times while maintaining model accuracy
- Engineered an intelligent email processing system using LangChain and custom LLMs, resulting in **60% improvement** in request processing accuracy
- Developed a Vision LLM pipeline for hotel room categorization with **99.9% uptime**, achieving **40% efficiency gain** through automated feature extraction and classification

### ML Engineer Intern
*Ibn Tofaïl CS Department – Research Institution* ⊕
Mar 2022 – Jun 2022
*Kenitra, Morocco*

- Led the development of an emotion recognition system using deep learning, achieving **85% accuracy** on FER2013 dataset, and implemented SOTA vision models reaching **90% average precision** through innovative architecture design and hyperparameter optimization
- Enhanced model robustness by **20%** through advanced data augmentation and regularization strategies, while developing and deploying a production-ready desktop application that increased user engagement by **30%** and set benchmarks for future computer vision projects

## FEATURED PROJECTS

### ⌥ End to End Kidney Disease Classification | *AWS, MLflow, DVC, MLOps* | Aug 2024 - Sep 2024
- Architected and deployed a production-grade medical diagnosis system that achieved **94% accuracy**, incorporated MLOps practices for automated testing, monitoring, and A/B testing, and established robust CI/CD pipelines using GitHub Actions for continuous model retraining and deployment with zero downtime.

### ⌥ Intelligent Content-Ad Matching System | *LLM, LLAVA, Supabase, Vertex AI* | Feb 2024 - Mar 2024
- Designed and deployed a scalable content-ad matching system, processing over 1000 articles daily with **85% matching accuracy**, optimized inference time by **40%** through custom LLAVA model deployment on Vertex AI, and integrated Supabase for efficient data handling and storage.

### ⌥ AI-Powered Newsletter Automation Platform | *CrewAI, Exa, LangChain, Streamlit* | Aug 2024 - Sep 2024
- Developed an autonomous newsletter generation system leveraging AI agents, reducing content creation time by **75%**, implemented advanced NLP pipelines for content summarization and curation, and achieved a **90% user satisfaction** rating.

## EDUCATION

### IT Architecture Expert
*École 42 Paris* ⊕
Nov 2024 – Current
*Paris, France*

- Key focus: Microservices Architecture, System Design, Infrastructure as Code, and DevOps practices

### M.S. in Artificial Intelligence
*Ibn Tofaïl University* ⊕
Nov 2022 – Jul 2024
*Kenitra, Morocco*

- Coursework: Advanced ML Algorithms, Neural Architectures, Transformer Models, Computer Vision

### B.S. in Mathematics and Computer Science
*Ibn Tofaïl University* ⊕
Oct 2020 – Jul 2022
*Kenitra, Morocco*

- Core studies in Data Structures, Algorithms, Linear Algebra, and Software Engineering

### Digital Technology Architect
*Mohammed VI Polytechnic University – École 1337 (42 Network)* ⊕
Oct 2019 – Nov 2024
*Benguerir, Morocco*

- Intensive project-based curriculum focusing on software architecture, algorithms, and system design

## SKILLS

**Artificial Intelligence & Machine Learning:** Machine Learning, Deep Learning, NLP, Computer Vision, Reinforcement Learning, Large Language Models, Prompt Engineering, RAG, Fine-tuning, Text-to-X Models, Embeddings, PyTorch (Advanced), TensorFlow (Advanced), Scikit-learn, Keras, JAX, Hugging Face (Transformers, Datasets), LangChain, LlamaIndex, ONNX, OpenAI API, CrewAI, Autogen

**Infrastructure & DevOps:** AWS (SageMaker, Lambda, ECS), GCP (Vertex AI, Cloud Run), Azure (Machine Learning Studio), Docker, Kubernetes, Model Deployment (TensorRT, ONNX Runtime), Model Monitoring (Weights & Biases, MLflow), Model Serving (BentoML, TorchServe), A/B Testing

**Data & Development:** Python (Expert), C++ (Intermediate), Git/GitHub, REST APIs, FastAPI, SQL, MongoDB, Vector Databases (Pinecone, Weaviate, Milvus, FAISS, Chroma)

**Languages**: Arabic (Native), English (Full Professional), French (Professional Working)

## CERTIFICATIONS

**Practical Data Science** — AWS, **Professional TensorFlow Developer Certificate** — **Deep Learning Specialization** —DeepLearning.AI, **Generative AI Winter School** — Ecole Centrale Casablanca, **ML in Python with scikit-learn** — Inria, **Mathematics for Machine Learning** — Imperial College London