

THOMAS MEBARKI

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SUMMARY

ML Engineer who left tech to work in a kitchen — and came back with a SaaS. I build models that serve the business, not the other way around.

3 years of experience in applied Machine Learning (Computer Vision, NLP, Time Series, Fraud Detection), with a product-oriented approach focused on ROI and profitability. Unique background: hands-on immersion in the restaurant industry to understand real-world constraints before building EGIR, an analytics SaaS for restaurant owners.

TECHNICAL SKILLS

Machine Learning: Scikit-learn, XGBoost, LightGBM, Random Forest, Clustering (K-Means, DBSCAN), Regression, Classification, Anomaly Detection

Deep Learning: TensorFlow, PyTorch, Keras, CNN, Transfer Learning (ResNet, EfficientNet, VGG16)

NLP & LLMs: Transformers, BERT, LLM, RAG (Retrieval Augmented Generation), Hugging Face, LangChain, TF-IDF, Embeddings

MLOps & Infrastructure: Docker, Kubernetes, Git, CI/CD, MLflow, FastAPI, Streamlit

Data Engineering: Python, SQL, Pandas, NumPy, PySpark, Feature Engineering

Cloud & Tools: AWS, GCP, JIRA, Linux, Jupyter, VS Code

PROFESSIONAL EXPERIENCE

Founder & ML Engineer — EGIR

August 2025 - Present

Analytics SaaS for restaurant decision-making, from product design to deployment.

- Designed and developed an end-to-end data product: business analysis, ML modeling, backend/frontend
- Implemented margin prediction models and food cost optimization algorithms
- Deployed cloud architecture: Python, FastAPI, Docker, PostgreSQL

Key Skills: Python, FastAPI, Docker, PostgreSQL, ML Production, Product Management

ML Engineer — Computer Vision

June 2024 - September 2024

SanteVet (Insurtech)

- Developed an image classifier (120 dog breeds, Top-3 Accuracy = 90%, inference < 500ms)
- Implemented transfer learning (ResNet50V2, VGG16, EfficientNet) and optimized preprocessing
- Designed architecture: CNN feature extractor + SVM RBF classifier with calibrated probabilities

Key Skills: Computer Vision, CNN, Transfer Learning, TensorFlow, Keras, OpenCV, SVM

NLP Engineer — Tag Recommendation System

March 2024 - May 2024

Stack Overflow

- Developed a multi-label NLP classification system (Precision@5 = 78%, p95 latency = 145ms)
- Designed multi-model architecture: TF-IDF, Word2Vec, BERT, USE
- Reduced moderator corrections by 31%, achieved 52% user adoption

Key Skills: NLP, BERT, Transformers, TF-IDF, Word2Vec, FastAPI, Multi-label Classification

Data Scientist — Customer Segmentation

December 2023 - February 2024

Back Market (E-commerce)

- Developed RFM segmentation identifying 4 customer segments (Silhouette Score = 0.68)
- Implemented PCA analysis and unsupervised clustering for actionable segments
- Wrote technical documentation for handoff and maintenance

Key Skills: Clustering, K-Means, PCA, RFM Analysis, Python, Streamlit, pytest

Data Scientist — Energy Prediction

November 2023 - December 2023

Schneider Electric

- Developed a predictive model for building energy consumption ($R^2 = 0.83$, +45% vs baseline)
- Designed temporal feature engineering (seasonality, trends, lag variables)
- Optimized RMSE/MAE metrics for production deployment

Key Skills: Regression, Feature Engineering, SHAP, XGBoost, Scikit-learn, Streamlit

ML Engineer — Fraud Detection (Internship then Full-time)

January 2023 - November 2023

Shift Technology (Insurtech) — French unicorn, AI-powered fraud detection

- Analyzed transactional data and designed feature engineering for anomaly detection
- Developed risk scoring models using supervised and unsupervised approaches
- Validated models through statistical testing for production deployment

Key Skills: Anomaly Detection, Feature Engineering, Scoring, Python, SQL, Statistical Testing

Field Immersion — Professional Cook

December 2024 - July 2025

Cafe de Paris, Calais

- Analyzed product margins, stock rotation, and pricing mechanisms
- Transformed this field experience into EGIR creation after restaurant closure

Key Skills: Business Analysis, Operations Management, Domain Understanding

EDUCATION

Master's in Data Science — ML Specialization | *CentraleSupélec* | 2023

Bachelor's in Mathematics — With Honors | *ULCO* | 2021

Professional Culinary Diploma | *A l'Ecole des Chefs* | 2025

CERTIFICATIONS & LANGUAGES

CLES B2 English | French (Native), English (Professional)

PROJECTS & ADDITIONAL INFORMATION

- **ML Portfolio:** 5 deployed demos (Streamlit, Hugging Face Spaces) — energy, clustering, NLP, CV, trading
- Black belt in karate (regional champion) | Marathon runner | Competitive sailor