Mahmoud Mayaleh *AI & Machine Learning Engineer*

mahmoudmayaleh@gmail.com Paris, FR Mahmoud-Mayaleh github.com/mahmoudmayaleh

AI Engineer with a Master's in Artificial Intelligence, skilled in deep learning, NLP, and large-scale model training. Background in distributed AI systems and applied ML research.

EDUCATION

Master's in Artificial Intelligence for Connected Industries, Paris, France
Conservatoire National des Arts et Métiers (CNAM)

Bachelor of Engineering: Computer Engineering, *Ostim Technical University* Ankara, Türkiye

PUBLICATIONS

Enhancing Sentiment Classification on Small Datasets, 2026
Discover Artificial Intelligence - Springer
- Tested EDA, back-translation, and NLPaug across 3 models (Logistic Regression, Random Forest, BERT) on low-resource sentiment datasets.
- Achieved consistent accuracy gains, with contextual augmentation boosting BERT >10%, while EDA/back-translation improved traditional classifiers.

LipLingo: CNN Model for Lip Reading, 2025
ELCVIA - Electronic Letters on Computer Vision and Image Analysis (Under review)
- Developed *LipLingo*, a CNN–BiLSTM model for visual speech recognition; introduced rotational validation and a custom preprocessing pipeline.
- Reached 95% character-level and 87% sentence-level accuracy on the GRID dataset, outperforming LipNet baseline.

PROFESSIONAL EXPERIENCE

Research Engineer, *Telecom SudParis (Institut Polytechnique de Paris)* 03/2026 – Present
Paris, France
- Designing multi-agent RL policies for coordinated NF/VNF placement and migration, modeling agents' cooperation to optimize end-to-end 6G slicing performance.
- Exploring the use of LLM-based agents to support multi-agent RL decisions in network slicing.
- Prototyping LLM-assisted formulation and decomposition of resource allocation problems before solving them with classical optimization methods in simulated 6G scenarios.

Research Intern, *CNAM* 06/2025 – 09/2025
Paris, France
- Analyzed behavior and performance of large GPT-style models under diverse workloads, with a focus on reliability, latency, and scalability of LLM-based systems.
- Modeled LLM communication patterns and scheduling strategies, providing insights for building robust, inference-time reasoning and planning pipelines.

Back End Developer, *Ostim Technical University - IT department* 02/2024 – 06/2024
Ankara, Türkiye
- Designed and integrated customized Odoo ERP modules and intelligent controllers, boosting operational efficiency by 20% through AI-assisted workflow optimization.
- Automated backend processes with Python and integrated predictive data-validation scripts, cutting manual data entry by 40% and minimizing human error.
- Optimized database queries and implemented data-driven caching strategies, improving ERP load times by 25% and enhancing responsiveness for analytics-driven modules.

Machine Learning Intern, *ArkSigner* 08/2023 – 10/2023
Ankara, Türkiye
- Constructed a YOLO-v5 object detection pipeline, achieving 90% mAP, leveraging advanced ML techniques to improve robustness and reliability.
- Integrated AI models into the production workflow, elevating system performance by 30% and increasing automation and processing speed.
- Conducted extensive testing and validation on custom datasets to ensure deployment readiness and robustness of the detection system.

TECHNICAL SKILLS

Programming
Python, C++, C#

Data Analysis & Visualization
NumPy, pandas, Matplotlib, Seaborn

AI/ML Frameworks
PyTorch, TensorFlow, scikit-learn, Hugging Face, YOLOv5, OpenCV

Other Tools
Git, Docker, Jupyter, Colab, LaTeX