Mahmoud Mayaleh *AI & Machine Learning Engineer*

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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, 2025
Discover Artificial Intelligence - Springer (Under review) ⊡
- 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 Intern, *CNAM* ⊡ 06/2025 – 09/2025
Paris, France
- Researched RDMA and LLM workload traffic to design and evaluate scheduling strategies, modeling communication topologies, and computing communication overlap using ns-3 and SimAI.
- Designed and executed workloads for GPT models up to 175B parameters on 1024 GPUs, using SimAI to run analytical simulations, optimize NCCL/RDMA communication, and prototype MSCCL custom collectives for scalable performance analysis.

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 Assistant, *Ostim Technical University - IT department* ⊡ 07/2022 – 03/2023
Ankara, Türkiye
- Diagnosed and resolved technical issues using scripted log analysis and anomaly-detection checks, achieving 95% student satisfaction through fast, data-driven support.
- Oversaw maintenance of university systems and proactive monitoring with alerting rules, maintaining 99.9% uptime for over 10,000 users.
- Trained staff on new digital tools and AI-assisted support workflows, reducing internal response time by 25% and boosting team efficiency.

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