

Nouh Taha CHEBCHOUB

AI Engineer | nouhtahachebchoub@gmail.com | +212 6 01 75 46 29

nouhtahachebchoub.com | linkedin.com/in/nouh-taha-chebchoub | github.com/Chabachib

Skills

- **Dev** : Python, SQL, HTML, CSS, JS, NextJS, React
- **Tech Stack** : Git, InfluxDB, PostgreSQL, MongoDB, MinIO, Docker, FastAPI, MLflow, Grafana, Redis, Prometheus
- **AI Stack** : Transformers, NLP, Computer Vision (YOLO/OpenCV), LLMs, GANs, PINNs
- **Communication** : English (Fluent), French (Fluent), Arabic (Native)

Projects

TwinFlux: End-to-End EV Energy Intelligence Platform

- Built a physics-calibrated EV simulation engine validated on 29 real-world trips, achieving $\pm 0.5\%$ SoC MAE across 5 vehicle profiles. The engine models aerodynamic drag, rolling resistance, grade forces, regenerative braking, and temperature derating across SUMO-generated kinematic speed profiles.
- *Tools & Technologies Used*: Python, FastAPI, SUMO, PostgreSQL, Redis, MinIO, Docker, GitHub Actions, Grafana, MLflow

GAN-Sim: Generative Behavioural Modelling for Agent Training

- Developed a GAN-based model trained on 5,000+ annotated gameplay images, achieving 93% enemy detection accuracy and generating human-like aiming movements to simulate realistic target tracking.
- *Tools & Technologies Used*: GANs, Tensorflow, OpenCV, CVAT.ai, YOLO, LabelImg.

EEG Based Emotion Detection from DEAP Dataset

- Developed and compared CNN and RNN-based models (GRU, Bi-LSTM) on the DEAP dataset (32 participants, 1,280 EEG trials), achieving 91–94% accuracy in valence and arousal classification via advanced signal preprocessing and spectral feature extraction.
- *Tools & Technologies Used*: CNN, Bi-LSTM, GRU, Autoencoder, Keras, MNE, XAI.

Professional Work

AI Engineer, Variable Data Co.

July 2025 – April 2026

- Architected an automated LLM-based engine to extract and compare complex data across Medical, Motor, and General insurance quotations, generating structured side-by-side analysis sheets for client decision-making.
- Optimized prompt engineering and structured information extraction pipelines to reduce report turnaround from 2+ days to <30 minutes, maintaining deterministic, human-level accuracy across diverse insurance categories.

Data Scientist Intern, DHBW Friedrichshafen - Germany

Feb 2025 – July 2025

- Designed and deployed a Digital Twin for an electric vehicle using CARLA, integrating real-time telemetry (10k+ data points/sec, <50ms latency) for predictive analytics and maintenance.
- Architected a PINN model for Battery SOC estimation by embedding the Coulomb Counting differential equation into the loss function, achieving <2% prediction error and ensuring physical consistency with current-over-time integration.

Education

Master's Degree in Data Science, Faculty of Science Semlalia - Marrakech, Morocco

Sept 2023 – July 2025

Bachelor's Degree in Mathematics and IT, Faculty of Science Semlalia - Marrakech, Morocco

Sept 2020 – July 2023

Certifications

- Machine Learning - DeepLearning.AI
- Python for Data Science, AI & Development - IBM
- EEG Article - Sensors

Publications

- Enhancing EEG-based emotion detection with hybrid models: Insights from DEAP dataset applications (DOI)
- Fostering Innovative Learning Through Augmented Reality (DOI)