Anas Meftah

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RESEARCH INTERESTS

Machine Learning · Trustworthy AI · Neural Network Verification · Statistical Learning · Scientific Computing · Complex Systems

EDUCATION

Faculty of Science of Tunis (FST), University Tunis El Manar — Tunis, Tunisia
National Engineering Diploma in Data Science — *Expected 2028*

- **Relevant Coursework:** Machine Learning, Probability & Statistics, Stochastic Modeling, Graph Theory, Time Series, inferential statistics.

Faculty of Science of Tunis (FST) — Tunis, Tunisia
Integrated Preparatory Cycle (Engineering) – Honors (Mention Bien) — *2023 – 2025*

- **Relevant Coursework:** Advanced Algorithms, Signal Processing, Data Transmission, Higher Mathematics.

National Baccalaureate in Mathematics — Tunisia
Highest Honors (Mention Très Bien) — *2023*

RESEARCH EXPERIENCE

The Digital Research Center of Sfax (CRNS) — Sfax, Tunisia
Research Intern | Neural Network Verification — *July 2026*

- Evaluated certified robustness of convolutional neural networks on the VNN-COMP CIFAR2020 benchmark.
- Automated parsing and analysis of α, β-CROWN verification logs using Python.
- Investigated Branch-and-Bound behaviour and robustness under different perturbation.

RESEARCH PROJECTS

IBP Verifier (Personal Project) — 2026
Independent implementation of mathematical bounds for neural networks

- Implemented Interval Bound Propagation from scratch in Python to understand neural network verification algorithms.
- Developed modular implementations of linear and ReLU bound propagation together with automated unit tests.
- Explored symbolic interval propagation to improve bound tightness.

Feature Drift Detection — 2024 – 2025
Statistical monitoring pipeline

- Built a statistical monitoring pipeline for detecting feature drift between reference and production datasets.
- Implemented Kolmogorov–Smirnov tests from scratch using NumPy.
- Developed an interactive Streamlit dashboard for visualization and reporting.

TECHNICAL SKILLS

Programming Languages: Python (Advanced), SQL, Bash/Shell, Java
Scientific Computing & ML: NumPy, Pandas, SciPy, PyTorch, Scikit-learn
Tools & Workflow: Git, Linux CLI, Docker, MLflow , Latex

LANGUAGES

Arabic (Native) · **English** (Professional) · **French** (Professional)