SOBHAN FOOLADI MAHANI

DL/ML ENGINEER | R&D | DATA ANALYST

Barcelona, Spain | +34661062800 | fooladi.sobhan@outlook.com

SUMMARY

AI & Machine learning engineer with a strong foundation in **deep learning**, real-time signal analysis, and scalable backend systems. Delivered 94% classification accuracy using **CNN/LSTM** models and improved processing speed by 30% through optimized pipelines. Proficient in **Python, PyTorch, and scientific computing**. Experienced in applying machine learning to complex, high-dimensional data, including **environmental and sensor-based datasets**. Adaptable and **research-oriented**, with a focus on **delivering impactful AI solutions in interdisciplinary and data-intensive domains.**

Core Strengths

Analytical thinking • Problem-solving • Cross-functional collaboration • Clear communication • Initiative & ownership • Rapid prototyping

TECHNICAL SKILLS

- **Programming Languages:** Python, Bash
- **Machine Learning & Deep Learning:** PyTorch, Scikit-learn, NumPy, Pandas, Matplotlib, OpenCV, MediaPipe, CNNs, LSTMs, Supervised learning, model evaluation, time-series classification
- **Data Processing & Pipelines:** Signal filtering, feature extraction, modular ML workflows, real-time data pipelines, performance optimization
- **Earth & Environmental Data:** Remote sensing data handling, ESA SNAP toolbox, environmental signal analysis, basic familiarity with NetCDF and satellite image formats
- **Backend & Infrastructure:** Flask, RESTful API design, Linux/UNIX systems, Git, Jupyter, microservices, report automation
- **Tools & Platforms:** JetBrains IDEs (e.g., PyCharm), Google Colab, VS Code, experience working in HPC-like batch environments (basic)
- **Other Competencies:** Software architecture, agile workflows, UML modeling, documentation, collaborative development, interdisciplinary communication

PROFESSIONAL EXPERIENCE

AI & Backend Engineer (R&D – MAXSENS Project)

Imaz Tech - Barcelona, Spain | Jul 2023 - Present

Project: MAXSENS – AI-powered well-being platform for EMG signal analysis and motion tracking

- *Built **Flask APIs** for **real-time EMG/motion processing**, enabling scalable, modular AI pipelines.*
- Achieved 94% gesture classification accuracy by designing and training deep learning models **(CNNs and LSTMs)** tailored for **high-dimensional physiological signals.**
- Improved **signal processing efficiency by 30%** through **optimized filtering** and **feature extraction techniques**, enhancing system responsiveness in **real-time** applications.
- Built **automated analytics pipelines** to generate structured reports **(CSV, PDF, JPG)**, improving **reproducibility** and reducing manual handling by **over 60%.**
- Collaborated with **frontend and clinical teams** in a **research-driven**, **interdisciplinary environment** to align model outputs with real-world usability and feedback loops.
- Implemented **camera angle detection**, **user distance guidance**, and **posture monitoring features**, reducing exercise execution errors by 40%.
- Contributed to **rapid MVP development cycles**, accelerating the deployment of **R&D features** by 35% through agile workflows and close coordination with product stakeholders.
- Integrated **multi-sensor data (EMG, posture, camera)** to monitor user movement, body positioning, and execution quality—methods applicable to environmental time-series data.

Software Engineer / Technical Product Owner
SaminCoin - Tehran | May 2022 - Jan 2023

- Designed and maintained RESTful APIs in Python and Django to support scalable deployment of **AI-driven fraud detection** and transaction classification modules within a cryptocurrency platform.
- Created detailed **UML diagrams** and system designs, reducing miscommunication and **accelerating development cycles by 25%.**
- Led product **roadmap planning** and **sprint** execution, contributing to a 40% reduction in time-to-market for key features and increasing platform responsiveness to user needs.
- Bridged communication between **cross-functional teams** and stakeholders, ensuring product decisions aligned with both technical feasibility and market demand.
- **Collaborated with the UI/UX team to optimize user flows**, resulting in a smoother onboarding experience and improved user satisfaction based on early-stage feedback.
- Introduced agile development practices and improved sprint visibility, enabling better prioritization and alignment across engineering and product teams.
- **Delivered measurable value by accelerating product delivery**, improving development efficiency, and ensuring technical solutions supported business growth objectives.

AI Developer (Freelance/Personal Projects)
Remote | Feb 2023 – Present

- Created an NLP-based classifier for Moodest (Barcelona), analyzing internal communication patterns to assess HR-related well-being and burnout risk. Achieved **91% accuracy** on multi-regression engagement score prediction and **96% accuracy** in relevant/irrelevant message classification before deeper sentiment analysis. The model used **BERT embeddings and XGBoost** for sentiment and engagement prediction, integrated into their backend via a lightweight **Flask API.**
- Designed and deployed a **document classification pipeline for a local legal-tech startup**, automating the tagging and routing of Farsi-language legal documents using TF-IDF, topic modeling, and lightweight transformer models.

EDUCATION

Master's in Telecommunications   2023 - 2025
Universitat Politècnica de Catalunya (UPC), Spain | Feb 2023 – Present

- **Specialization:** Deep Learning and Big Data Analysis
- **Relevant Coursework:** Software Architecture, Machine Learning, Entrepreneurship
- **Relevant Skills:** Data analysis, software design, technical problem solving, large-scale systems

Bachelor's in Information Technology   2015 - 2020
Azad University, Karaj | Sep 2015 – Aug 2020

- **GPA:** 7.7 / 10
- **Relevant Coursework:** Data Structures and Algorithms, Database Management, Programming Fundamentals.
- **Relevant Skills:** Software development, algorithm design, problem-solving, object-oriented programming

CERTIFICATIONS & INTERESTS

- **Languages: English (Fluent, IELTS Certified), Spanish (A1)**
- **Work Authorization: Eligible to work and intern in Spain**
- **LinkedIn:** linkedin.com/in/sobhan-fooladi-mahani
- **Interests:** Playing chess, Real-world AI applications, signal processing, development and coding, prototyping, video games, reading mystery novels, tech philosophy, problem-solving challenges