Francesco Massafra

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Objective

Seeking a Machine Learning Engineer, AI Research, or Software Engineering position where I can apply my expertise in deep learning, natural language processing, and computer vision to build innovative AI systems and scalable software solutions. Interested in applications spanning healthcare, research, and industry.

Education

MSc **University of Amsterdam**, Artificial Intelligence — *Sept 2025 - Present*

- **Main Coursework:** Machine Learning 1, Deep Learning 1, Computer Vision, Natural Language Processing, and Reinforcement Learning

BS **University of Pisa**, Computer Science — Sept 2021 - Nov 2024

- GPA: 4.0/4.0 (grading system)
- **Main Coursework:** Programming and Algorithm Design, Linear Algebra, Calculus, Numerical Calculus, Statistics, Introduction to Artificial Intelligence

Experience

Wylit [], Full Stack Developer — Remote - On site (Hybrid)
Sept 2021 – Present

- Designed and developed client platforms using React, Node.js, and PostgreSQL, streamlining workflows and enhancing client engagement while boosting operational efficiency
- Managed server infrastructure and deployments for 15+ client projects across multiple platforms, handling both client-side and server-side architecture using Docker and modern DevOps practices
- Implemented performance optimizations for web applications, achieving 40% reduction in loading times and improved responsiveness through full-stack optimization techniques

Projects/Publications

Nov 2024 **MEDICA: A Machine Learning Pipeline for Multiple Sclerosis Biomarker Discovery**

- Presented at the 20th Conference on Computational Intelligence Methods for Bioinformatics and Biostatistics CIBB 2025, integrating data-driven and model-driven approaches for biomarker identification in multiple sclerosis
- Developed interpretable machine learning models using XGBoost and SHAP for single-cell RNA sequencing data, identifying potential MS biomarkers with explainability metrics
- Pre-processed and analyzed single-cell sequencing datasets using Python, scikit-learn, and statistical methods, comparing explainable AI techniques to traditional statistical approaches

Jun 2024 **TeleSpace: A New Way of Exploiting Telegram**

- Developed a full-stack platform with Rust backend and React frontend enabling unlimited data upload via Telegram Bot APIs, supporting files up to 2GB per chunk
- Engineered an efficient Rust-based file splitting algorithm to divide large files into Telegram-compatible chunks with automatic reassembly capabilities
- Built a RESTful API in Rust with asynchronous request handling for chunk-by-chunk uploads and implemented a Redis-based queue system to manage concurrent user uploads across multiple worker instances

Skills and Interests

Languages: Italian (Native), English (C1)

Programming Languages: Python, Rust, R, Java, JavaScript

ML/AI Frameworks: PyTorch, scikit-learn, XGBoost, Langchain, SHAP

Web Technologies: React, Node.js, REST APIs, PostgreSQL

Tools & Platforms: Git, Docker, Linux, Redis, Jupyter