Gianmarco Santoro

Data Scientist - AI | Mechanical Engineer - Automation

I'm focusing on **AI** and seeking opportunities to delve deeper into

Computer Vision, **Robotics**, **LLMs**, Multi-Modal AI, Edge AI, **multidisciplinary** projects and more.

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SKILLS

Visit my Website for complete Portfolio
gianmarco-san.github.io

IT & Tools

- Python, R, PyTorch, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn
- HTML, CSS, GIT-GitHub/Lab, Jupyter/Colab, MsOffice, Excel, GSuite, Notion, Canva
- Matlab & Simulink, AutoCAD, SolidWorks
- Basic: Bash, C, JS, PLC Siemens-Cli., TCP/IP, mRemoteNG, SSH, Modbus, qModMaster, CATIA, HyperMesh/Ext., MSC-Adams/Apex

Languages

- **Italian** | C2 - Mother tongue
- **English** | C1 - Professional
- **German** | A2 - Basic

Exploring Startup ideas

- Project-Driven Work Community
- Food Social-Media
- Selected Products Referral Platform

PROFILE

From **EU**, free to relocate

Areas of interest

AI, robotics, computer vision, automation, R&D, smart devices, aerospace, e-mobility, energy transition, materials (re)cycle, health, apps, integrated systems, management, new ideas development

More about me

My interests range from science, tech, food, art, nature, to travel, games, music, wellness

My sports: mainly running, swimming, gym

I love to continuously improve products, details & my abilities, focusing on the big picture to keep efficiency high

EXPERIENCE **DeepFake Detection | Computer Vision**

MICC (UniFi) | (Remote) Florence, Italy | Dec 2023 - Apr 2024

DeepFake Detection Exploiting **Self-Attention Maps**. Implemented **Out-of-Distribution Detection** on *FF++* dataset achieving a mean **60% AUC-ROC on five forgery types**. A 2-step method:

- Extracted Self-Attention heatmaps via **ViT**, pre-trained on face recognition.
- Enhanced OOD detection via **convolutional autoencoder** trained on reals.

EDUCATION **Data Science & Statistical Learning | II Level Master**

UniFi & IMT for Advanced Studies | Feb 2023 - Apr 2024 | 110/110 cum laude

Some topics: **Optimization**, GIS, **DL**, **NLP**, Graph Theory. A few **projects**:

- **ML** pipeline: **Grid Search** on linear regression degree.
- Economics: Salary prediction on features like education via **CART** models.
- **DL**: **images recognition** via **CNNs** models (**PyTorch**).
- Policy impact: **Causal inference** via diff-in-diff.

EXPERIENCE **Smart Center | IT & System Integration**

Daikin Applied Europe SpA | Rome, Italy | Jun 2021 - Sep 2022

Worked on cloud-based HVAC monitoring, system integration, and services:

- **Automated PLC** mapping and alarm selection via **Python feature**.
- Developed a sensor-to-cloud **temperature control system** for efficiency.
- **Services**, such as periodic reports via web API.

EXPERIENCE **Wireless Charging System | Operations Research**

Enermove Srl | Turin, Italy | Apr 2020 - Mar 2021

Designed a **predictive methodology** to align infrastructure in a **wireless dynamic EV charging system** for industrial logistics with energy & economy:

- Developed a **mathematical model** and **optimized** via genetic algorithms.

EXPERIENCE **Chip Extrusion Recycling | Experimental Research**

Institut für Umformtechnik und Leichtbau | Dortmund, Germany | Feb - Sep 2018

Aluminum recycling process experimentation by direct extrusion of mixed waste alloys (**DoE**). Analyzed **mechanical**, **metallurgical**, **chemical, aesthetic properties** of profiles, compared to **FEM** simulated and assessed **industrial feasibility** to identify process bottlenecks.

EDUCATION **Mechanical Engineering | M.Sc. & B.Sc.**

M.Sc. @ PoliTo & B.Sc. @ UniBo | Until Apr 2021 | 104/110

Specialized in **automation**. Some extra projects:

- Fully **designed** a two-stage **reduction gearbox** for general applications.
- **Thermal design** of hot air boiler and home **heating system**.
- Built **numerical model** for air-hot fumes metal flue **heat exchange**.
- Automation and **mechatronics** labs: PLC, PID controls, pneumatics.

Pursuant art. 13 GDPR (EU Reg. 679/16) and Italian Legislative Decree 196/03, I authorize to use the displayed details - ***CV update 08/02/2025***