Mattia Sospetti

✉ mattiasospetti@libero.it   📞 +39 3490527759   🔗 Personal Website   in LinkedIn   ⭘ GitHub

Machine Learning Engineer with experience in developing end-to-end AI and Computer Vision solutions. Skilled in leveraging machine learning models to enhance product performance and innovate in R&D projects. Looking for opportunities to expand my technical expertise in a place where challenge and growth come first.

Experience

GrottiniLab - Machine Learning Engineer

May 2023 - Present (Macerata, Italy)

- Designed and implemented **Computer Vision** solutions, creating new products or enhancing existing ones with new functionalities.
- Implemented an embedded **tracking solution**, proposing innovative firmware and implementing proprietary libraries, reducing costs from €500 per unit to approximately €100.
- Improved an internal **reverse image search** solution by adopting **updated loss functions** and a more **sophisticated training task**, resulting in a 4% improvement, from 92% to 96%.
- Ported a tracking solution from C++ to Python to improve long-term reliability and reduce technical debt, and enhanced scalability up to **100 Raspberry Pis simultaneously** through **automatic monitoring with AWS cloud solutions (RedShift, Lambda, AWS IoT, S3, SQS)**.
- Developed a **360° remote monitoring system** for construction sites, based on **Jetson Nano and ZED stereo cameras**. The R&D project included the implementation of software for **real-time obstacle detection**.

Télécom SudParis - Visiting Researcher Intern

April 2024 – May 2025 (Paris, France)

- Responsible for representing GrottiniLab within the "Trust Rise Project" (**Marie-Curie fellowship**), participating as a visiting researcher in European universities, where I collaborated with PhDs, and co-authored R&D academic articles in AI and IoT fields.
- Implemented a real-world simulation system to test **MQTT protocols** from a cybersecurity perspective.
- Developed **classification neural networks** whose accuracy increased by 10% through the adoption of more modern networks and improved training methods.
- Implemented a **backdoor injection** on a **GAN neural network** for risk analysis.
- Paper publication: https://inria.hal.science/hal-04832442/

Tod's S.p.A. - Data Analyst Intern

October 2022 - February 2023 (Fermo, Italy)

- Internship done at the Tod's group. Development of a software architecture, starting from **web scrapers** to get the data and integrating it into **data warehouse** and creating **Business Intelligence views**.

Education

Università Politecnica delle Marche Computer Science and Automation Engineering (Master's Degree)   2020-2023

- Final Dissertation: *"Deep Learning to intercept trends for a fashion company"*
- Main Courses: Computer Vision, Deep Learning, Data Science, Cybersecurity, Project Management, Drives for Robotic, Automation Systems, Non-linear Controls, Preventive Automation for Robotic Intelligent Systems.

Università Politecnica delle Marche Computer Science and Automation Engineering (Bachelor Degree)   2017-2021

- Final Dissertation: *"E-commerce application for the Android Operating System"*
- Main Courses: Electrotechnics, Electronics, Automatic Controls, Algorithms and Data Structures, Statistic and Probability, Electromagnetism, Object-Oriented Programming, Industrial Automation, Web and Mobile Development.

Skills

Programming: Python, SQL, PyTorch, TensorFlow, Keras, FastAi, OpenCV, Time-series, Pandas, Scikit-Learn, Matplotlib, Reinforcement Learning, statsmodels, HuggingFace, NLP, LangChain, Git

Cloud: AWS, Docker

Soft Skills: Teamwork, Communication, Fast learner, Flexibility, Autonomy

Languages: Italian (C2), English (C1 certificate), French (B1 certificate)

Additional Information

Interests: Basketball, Hip-Hop music, Reading, Fitness, Automotive, Videogames

Abroad Working Experiences: Spain (2 months), France (13 months), Belgium (3 months)