

# Simone Massaro

DATA SCIENTIST · FOREST RESEARCHER · SOFTWARE ENGINEER

✉ simone.massaro@mone27.net 🌐 mone27 🌐 Simone Massaro

## Experience

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### Interim Chief Technology Officer Head of Data Science Data Scientist

44moles GmbH, Göttingen, Germany

Oct 2023 - Present

FOREST MEASUREMENTS USING TERRESTRIAL LASER SCANNING

- Design and implement deep learning models for point cloud processing to perform semantic segmentation, instance segmentation, and species classification.
- Create algorithmic models to identify trees in terrestrial point clouds using a custom C++ library.
- Develop a pipeline for automated parallel processing of point clouds using a custom Python implementation on a Ray backend and PostgreSQL database, integrated with an internal dashboard.
- Develop machine learning models for quality control of pipeline outputs.
- Manage a data science team of five, including recruiting and onboarding new employees.
- Develop the company's technology strategy and oversee the web development team.

### Research Assistant

Università degli Studi della Tuscia, Viterbo, Italy

Jan 2025 - Present

- Integrate conversational AI and large language models for smart food processing. Development of AI Agent using the cheshire-cat-ai platform to control drying processes.

### Data Analyst Intern

Arbonaut Oy, Joensuu, Finland

FOREST MEASUREMENTS USING AERIAL LASER SCANNING

Apr 2023 - Sept 2023

- Developed Deep Learning model for single tree species classification using orthophotos and LiDAR.
- Estimated thinning volume using remote sensing for the entire country of Finland.
- Conducted spatial analysis of large-scale remote sensing data and field measurements.

### Research and Teaching Assistant

Georg-August-Universität Göttingen, Germany

Oct 2021 - Mar 2023

- Teaching assistant for the courses: Advanced statistics in R, Ecosystem and Analysis Processing, Introduction to R.
- Conducted a literature review of AI research papers for an ecosystem resilience project.

### Research Assistant

Università degli Studi della Tuscia, Viterbo, Italy

Jan 2019 - Oct 2020

- Developed Convolutional Neural Networks (CNN) for classification and segmentation of fruit samples in smart air drying processes.
- Published: Moschetti, R., Massaro, S., Chillemi, G., Sanna, N., Sturm, B., Chakravatula, S. S. N., & Massantini, R. (2019). Recognition of inlet wet food into the drying process through a deep learning approach. EuroDrying 2019 Torino.

INTERNATIONL ASSOCIATION WITH OVER 10000 MEMBERS

- General coordination and supervise governance, finance and administration of the organization, involving over 50 volunteers.
- Fundraising and ERASMUS+ grant application.
- Coordinated internal and membership department.
- Supported engement with high-level external partners.
- Developmed and maintained of association website.

## Education

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### MSc Forest and Ecosystem Sciences

**Georg-August-Universität Göttingen, Germany**

ECOSYSTEM ANALYSIS AND MODELLING

Nov 2020 - Mar 2023

- Main subjects: Statistics and Data Analysis, Remote Sensing, Ecosystem Modelling, Bioclimatology.
- Master Thesis: "Evaluation of Kalman Filter for meteorological time series imputation for Eddy Covariance applications".
- Final grade: 1.1/1.0 with distinction.

### BSc Forest and Nature Sciences

**Università degli Studi della Tuscia, Viterbo, Italy**

Oct 2017 - Sept 2020

- Main subjects: Forest Ecology, Forest Management, Nature Conservation.
- Bachelor thesis: "Evaluation of low-cost anemometers for micrometeorological applications".
- Final grade 110/110 cum laude.

## Skills

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<b>Programming Languages</b>	Python (advanced), R (advanced), C++ (intermediate), SQL (intermediate), PHP (intermediate), JavaScript (intermediate), Rust (intermediate), Julia (beginner)
<b>Libraries</b>	Pandas, Numpy, Polars, Tidyverse, Geopandas, Scikit-learn, PyTorch, Fastai, Fastcore, Ray, Matplotlib, Seaborn, Plotnine
<b>Technical skills</b>	Linux sysadmin, QGIS, PostgreSQL, Docker, Docker Compose, Cloud infrastructure, DevOps
<b>Leadership</b>	Team Management, Project Management
<b>Languages</b>	Italian (native), English (C2), German (A2), Spanish (A2)