

# Francesco Rota

Data Scientist & Quantitative Ecologist, PhD

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## Summary

Quantitative ecologist with 7+ years of experience in spatial modeling, biodiversity monitoring, GIS, and data science. Passionate about ecological forecasting, forest ecosystems, and applying AI to conservation. PhD in Mountain Environment and Agriculture.

## Technical Skills

- **Programming:** R, Python, SQL, Bash
- **Geospatial:** QGIS, ArcGIS, Google Earth Engine
- **Modeling:** Machine Learning, Statistics, Species Distribution Models
- **Tools:** Git, Docker, Slurm (HPC), Shiny, LaTeX, HTML
- **Data Sources:** Remote Sensing, Field Sampling, Genomics

## Experience

### Postdoctoral Researcher

*WSL, Birmensdorf, Switzerland (2022–2024)*

Modelled forest biodiversity patterns using high-res soil maps. Developed SDMs, R workflows, and handled HPC computation.

### Visiting Researcher

*University of Innsbruck (2020–2021)*

Studied population genomics of alpine plants. Managed bioinformatics pipelines and RADseq data analysis.

### Researcher & Teaching Assistant

*Free University of Bozen (2018–2022)*

Worked on climate change impacts on endemic flora. Taught courses on GIS, statistics, and ecology.

## Education

### PhD in Mountain Environment & Agriculture

*UNIBZ, 2018–2022*

### MSc in Natural Sciences

*University of Bologna, 2015–2017*

### BSc in Natural Sciences

*University of Milan, 2012–2015*

## Selected Projects

SOLID (WSL): SDMs for plants and fungi using novel soil data.

DOLE (UNIBZ): Phylogeography of Dolomites endemic plants.

Laboratorio di Scienze: Science outreach for kids (Project Manager).

## Languages

Italian (Native), English (C1), Spanish (C1),  
German (B1), French (B1)

## Interests

Photography, mountaineering, speleology  
Driving Licence A + B

## Certifications

**Computer Science for Artificial Intelligence** – HarvardX, Harvard University 2024

**Professional Habilitation** - Albo degli Agrotecnici e Agrotecnici Laureati, Italy, 2022

## Publications

Peer-reviewed articles in *Journal of Biogeography*, *Science of the Total Environment*, *Molecular Ecology*, *Scientific Reports*. Full list: [Google Scholar Profile](#)