

# Francesco Rota

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## ABOUT ME

I am a Data Scientist with international academic experience in the natural sciences (BSc, MSc and PhD). I specialised in ecology, botany, GIS and data science. During my PhD I focused on machine learning applied to species distribution models. During my last postdoc I had the opportunity to work with spatial modelling and machine learning. I bring strong analytical thinking, attention to detail, and a passion for environmental data. I have extensive experience in data validation, spatial modeling, machine learning, and the use of HPC environments. My work involves developing reproducible pipelines, quality-checking large geospatial datasets, and writing clear technical reports and scientific papers. I like dealing with complex issues on a daily basis always with a high degree of personal commitment, responsibility, accuracy, and team spirit.

## SKILLS

- **Programming:** R, Python, bash, SQL, LaTeX, C
- **Technical Skills:** data analyses, statistical modeling, predictive analytics, big data processing, machine learning, GIS, scientific writing
- **Tools:** VS Code, RStudio, Linux, HPC, Slurm, Docker, Singularity, GoogleEarthEngine, QGIS, ArcGIS Pro, GitHub, Overleaf, Shiny, Office Suite
- **Soft Skills:** problem-solving, critical thinking, science communication, project management, knowledge sharing, teamwork, teaching

## LANGUAGES

- *Italiano* native
- *English* C1
- *German* B1
- *Spanish* C1
- *French* B1

## PROFESSIONAL CERTIFICATES

2024	<b>Computer Science for Artificial Intelligence</b> ONLINE HARVARDX-EDX · Harvard University 📍	
2022	<b>Professional Habilitation</b> ALBO DEGLI AGROTECNICI E DEGLI AGROTECNICI LAUREATI · Ministero della Giustizia, Roma 📍	





## PUBLICATIONS

- Google Scholar:  
<https://scholar.google.com/citations?user=qOLAfo8AAAAAJhl=deoi=ao>

## EXPERIENCE

2022–2024	<b>Post-Doc Researcher</b> GIS & DATA SCIENCE · Swiss Federal Institute for Forest Snow and Landscape Research WSL, Birmensdorf 📍 Forest Resources and Management, Forest Biodiversity, Machine Learning, SDM, Digital Soil Maps, High Performance Computing	
2021	<b>Visiting Researcher</b> BOTANY · Universität Innsbruck 📍 Genomics Lab, Bioinformatics, Population genomics, RADseq, Genetic Diversity, HPC	
2018–2022	<b>Researcher &amp; Teaching Assistant</b> ECOLOGY · Free University of Bozen-Bolzano 📍 Machine Learning, Data Science, Climate Change, Rare Alpine Endemic Plants, Species Distribution Models, Maps, Phylogeography; Teaching Assistant in Botany	
2017	<b>Erasmus+ Trainee</b> ECOLOGICAL MONITORING · Universidad de La Laguna, Tenerife 📍 Island Ecology, Ecological Restoration, Biodiversity Conservation, Data Science	

## EDUCATION

2018–2022	<b>PhD</b> MOUNTAIN ENVIRONMENT & AGRICULTURE · Free University of Bozen-Bolzano 📍 Major in Ecology, Environment and Protection of Mountain Areas	
2015–2017	<b>MSc</b> NATURAL SCIENCES · Università di Bologna 📍 Biometry and Statistics, Environmental Economy and Impact, Laboratory of Digital Mapping and GIS, Physiology of Plants, Speleology, Systematic Botany Laboratory, Vegetation Ecology	
2014	<b>Erasmus+ fellowship</b> BIOLOGICAL AND ENVIRONMENTAL SCIENCES · Universidad de Salamanca 📍	
2012–2015	<b>BSc</b> NATURAL SCIENCES · Università di Milano 📍 Physical Geography and Cartography, Biology, Mathematics, Physics, Chemistry, Genetics, Physiology, Zoology, Botany, Ecology and Ethology, Conservation Biology, Geology, Oceanography, Renewable Energies	
2012	<b>High School Diploma</b> LICEO SCIENTIFICO WITH SPECIALIZATION IN PHYSICS · Istituto Andrea Fantoni, Clusone, Bergamo, Italy 📍	