Ivan Palmegiani, MSc

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Personal address and phone number available on request

Profile

Researcher with cross-disciplinary expertise including natural sciences, landscape ecology as well as data analytic and machine learning techniques. Earth Observation enthusiast. Capable of getting actionable insights from numerical results. Proponent of nature-based solutions for climate change adaptation and mitigation. Team player, also able to take charge of tasks individually. Constructive critical thinker. Solution oriented and careful about details. Strong analytical mindset and excellent organization skills. Highly motivated and positive towards challenges. Moved by inherent curiosity and engaged in continuous learning.

Technical expertise

Open Source GIS | Python programming | R statistical computing | Spatial analyses and Remote sensing | Time series analyses | Data visualization | Data reporting | Relational geodatabases - PostgreSQL + PostGIS | Fundamentals of Web-GIS Development

Languages

English - IELTS certification level C1 • German - TELC certification level B1 • Italian - mother tongue • Spanish - fluent • Portuguese - fluent

Professional Experience

Climate Co-Adaptation Lab Fellow PlanAdapt (DE) Proposal development for climate change adaptation with a focus on GIS and EO technologies in sustainable agricultural development.

Environmental Researcher | Geospatial Data Specialist since Jan. 2020
WWF Water Risk Filter (DE) Feb. 2021 - present
Working closely with the technical project manager, I have reviewed protocols to analyze corporate water risk data, refined data visualizations and mapped water risk types globally to support corporate partners in their path towards Water Stewardship. I've also automated data reporting workflows, leading to substantial reduction of the preparation time.

SmartCloudFarming GmbH (DE) Mar. 2020 - Feb. 2021
Research and development in a production context: following the principles of agile development, I have coordinated a small team of data professionals and personally worked at the development of a minimum viable product (MVP) for the estimation of water content in agricultural soil.

- Performed literature research to identify state-of-the-art methods for the estimation of soil water content and soil organic carbon from satellite imagery
- Presented key findings in bibliographical reports
- Identified suitable data sources to facilitate programmatic access to satellite imagery, and to ground data
- Developed data science pipelines to source and composite satellite imagery to train machine learning (ML) models, and prepared ground data to test and validate predictions

- Co-developed and fine-tuned ML models to predict soil moisture content from satellite data. The accuracy of predictions is satisfactory (R squared > 0.95, RMSE < 0.05)
- Generated interactive data visualizations and 3D maps to report model predictions to executives
- Developed dashboards to display ground data and model predictions to investors, and to potential clients

EarthRatings UG (DE) Jan. 2020 - Jun. 2020
Identified and evaluated access options to data sets on Corporate Environmental Footprint (CEF) and Social Responsibility (CSR) with advanced web search techniques (e.g. truncation, boolean logic, connectivity search and media tagging) | Development of a web scraper program to source publicly available data | Conversion of raw contents to tabular formats and integration of open data sets from several sources | Exploratory analyses and visualization of the resulting data sets

University of Primorska (SL) Jan. 2020
The role implied the revision of data storage procedures at the Conservation and Population Genetic research group led by Prof. Dr. Elena Bužan. The tasks included cleansing of genetic data sets and migration from data sheets to database tables, development of functional solutions for data storage in relational databases, automating data querying, and advising the research team on wildlife data management. The work has been conduced using open-source software for data cleansing and manipulation, while proprietary database solutions (Microsoft Access) have been used for data storage.

Professional re-qualification, Oct. 2018 - Nov. 2019
Data Science and Python programming courses | German language course | Conflict management and non-violent-communication (NVC) self-training | Personal development

Research Assistant, Apr. 2013 - Jun. 2018
IZW - Leibniz Institute for Zoo and Wildlife Research (DE)
Investigating the social system of the cheetah in central Namibia

- Collected, processed and analyzed time series of GPS telemetry data
- Performed spatial and movement analyses on tracking data and airborne imagery
- Modelled the use of space by individuals with linear and nonlinear regression models
- Collected and analyzed presence-absence data via camera-trap surveys
- Designed and maintained online and offline geodatabases
- Engaged with stakeholders, and presented scientific results to the general public through talks, data visualizations and reports
- Coordinated data collection in the field, supervised technicians and volunteers
- Organized scientific symposia

Education

Master of Science (MSc), Jul. 2010
Environmental Sciences and Natural Resources Management, University of Sassari. Grade: 110/110 *Summa cum Laude*
Environmental modelling, statistical inference, advanced statistical theory, systems ecology, landscape ecology, regional geology, pedology, sedimentology, zoocenosis and wildlife conservation, wildlife management, genetics, plant conservation, environmental economics

Latest training courses

Copernicus MOOC, Sept. 2020 - Dec. 2020
Copernicus programme, from European Union and European Space Agency
Overview on the programme | Copernicus data and services | Renewable Energy | Security and Emergency Management | Resource Management | Land Use and Management | Air quality, water pollution and ecosystem health monitoring | Integrating Copernicus data with other sources: Machine Learning, AI | Ideation | Prototyping | Developing | Collaboration

e-Learning on Digital Agriculture, Aug. 2020
Open Learning Campus, World Bank Group
Overview of Digital Agriculture | ICT and Digital Tools for Enhancing Productivity on the Farm | Empowering Smallholder Farmers through ICT/Digital Tools in Financial Services | Strengthening Agricultural Market Access with ICT and Digital Tools | Using ICT for Remote Sensing, Crowdsourcing, and Big Data

Echoes in Space, July 2020
EO College, European Space Agency - Friedrich-Schiller-Universität Jena
History of Radar technology and the discovery of electromagnetic waves | Image acquisition | Geometry of airborne and space borne Radar systems | Land applications of Radar remote sensing | Applications of radar remote sensing over Water | Application of Radar remote sensing for Hazard management

Data Science Bootcamp, Aug. 2019 - Nov. 2019
Business Trends Academy
Data protection and ethical matters | Linear and nonlinear regression | A/B testing | Hypothesis testing | Data visualization in Tableau | Object oriented programming (OOP) | Python modules and functions | Pandas and NumPy | Multiprocessing and multithreading | RESTful API | Webscraping | Neural Networks and Machine Learning techniques | Keras, Anaconda and TensorFlow

Hobbies and interests

Cooking • Indoor gardening • Tai Chi • Outdoor sports and activities such as climbing, bouldering, hiking, biking, canoeing, camping • DIY and Handicraft • Music and Arts • Urban agriculture