

# Ivan Palmegiani, MSc

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Address and phone number available on request



## Profile

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Researcher with cross-disciplinary expertise including natural sciences, landscape ecology, 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. Curious and eager to learn.

## Technical expertise

Python programming | R coding | Open Source GIS | Relational geodatabases - PostgreSQL + PostGIS | Remote Sensing - Google Earth Engine | Machine Learning | Spatial analyses | Time Series analyses | Data visualization | Data reporting | Basics of Web Development

## Languages

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

## Professional Experience

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**Environmental Researcher | (Geo)Data Scientist**, Nov. 2019 - Present

[SmartCloudFarming GmbH \(DE\)](#) Mar. 2020 - present

While working at the development of data products for precision agriculture my main responsibilities have been:

- Researching available literature to identify state-of-the-art methods for the estimation of soil moisture and soil organic carbon using remote sensing data
- Planning the different stages of the project and coordinating a small team of data professionals to make sure that objectives and key results would be hit on time
- Developing data science pipelines to source, clean and prepare ground data and satellite imaging for machine learning algorithms
- Co-developing and fine-tuning ML models to predict soil moisture content from satellite data. The accuracy of predictions is satisfactory ( $R^2 > 0.95$ ,  $RMSE < 0.05$ )
- Generating interactive data visualizations and reports for executives and their cooperators
- Developing ML dashboards to display data and results to potential clients

[EarthRatings UG \(DE\)](#) Nov. 2019 - Jun. 2020

Working intermittently, I assisted the founder of this young start-up to research and to source public data set on Corporate Environmental Footprint (CEF) and Social Responsibility (CSR). I have developed a web crawler to scrape data, in accordance with the term and conditions regulating data use. At a later stage I have converted the raw data to 'tidy' format, and performed exploratory analyses.

University of Primorska (SL) Nov. 2019

The research lab led by Prof. Dr. Bužan at the Department of Biodiversity requested assistance in the management of wildlife genetic data. My main tasks have been:

- Data cleansing
- Development of relational databases
- Preparation of data queries to automatize and optimize data management
- Consulting on data management

**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

**PhD Candidate**, May 2014 - Jun. 2018 | **Research Assistant**, Apr. 2013 - Sept. 2013

[IZW - Leibniz Institute for Zoo and Wildlife Research \(DE\)](#)

In the context of wildlife research, conservation and management, I investigated the social system of the cheetah in Namibian farmland. My main responsibilities were:

- Formulating evolutionary hypothesis on the social system of the cheetah
- Designing the study
- Coordinating and executing field operations involving live-capture of cheetahs, deployment GPS collars and the safe release of study animals into the wild, plus extensive camera-trap surveys of the capturing areas
- Engaging with local stakeholders and landowners, involving them in mitigation of human-wildlife conflict
- Processing and analyzing time series of geospatial data from satellite telemetry in near-real-time to plan field operations, and take actions in a timely manner
- Performing spatial and movement analyses of wildlife telemetry data
- Designing and maintaining online and offline geodatabases
- Writing scientific manuscripts
- Organizing scientific congresses and symposia

## Education

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**Master of Science (MSc)**, Jul. 2010

*Environmental Sciences and Natural Resources Management*, University of Sassari. Grade: 110/110 *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

## Further training

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**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