

# Julia Anna Leonardi

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The undersigned is aware that, pursuant to art. 76 of Presidential Decree 445/2000, false declarations, false documents and the use of false deeds are punished according to the Penal Code and special laws. All this stated states the following facts and personal qualities:

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I am a passionate and curious young professional, constantly striving to learn and grow, particularly in the field of geoinformatics within the space sector. I have a strong interest in harnessing geospatial data analysis, artificial intelligence, and technological advancements to address environmental challenges. My background includes an internship at the European Space Agency, focusing on machine learning for earth observation research, as well as a part-time role as a research assistant at Politecnico di Milano, specializing in geospatial data analysis. Outside of my professional pursuits, I am an outdoor enthusiast and climber supported by the Polish team Edelrid.

## EDUCATION

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**Politecnico di Milano** | Master of Science in Geoinformatics Engineering Sep. 2021 – Apr. 2024

- Topic of Master's thesis:  
“Landslide identification using deep learning-based change detection and the DeepESDL collaborative cloud platform”
- One of the outputs of the thesis project published as a dataset: <https://zenodo.org/records/10800338>
- Gold Merit-Based Scholarship offered by Politecnico di Milano

**University of Warsaw** | Bachelor of Science in Geography with a major in Geoinformatics Oct. 2018 – Jul. 2021

- Studies carried out within the College of Inter-Faculty Individual Studies in Mathematics and Natural Sciences (MISMaP)
- Diploma with distinction
- Topic of diploma dissertation:  
“Assessment of the usefulness of hyperspectral data for identifying high mountain vegetation in the Tatra National Park”
- Rector's Scholarship for the best students in the academic year 2019/2020

## PROFESSIONAL EXPERIENCE

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**Intern in the ESA, ESRIN in the Mission Management and Ground Segment Department** Sep. 2022 – Dec. 2022

ESA, ESRIN | Frascati, Italy

- Working on defining requirements for Machine Learning for Earth Observation on collaborative cloud platforms
- Researching the field of MLOps on platforms such as OpenEO, DeepESDL, MAAP, Euro Data Cube
- Developing research use cases on ML for EO, to test these platforms' support for such workflows

**Student Research Assistant** Apr. 2022 – Apr. 2023

Politecnico di Milano | Milan, Italy

- Assistant in development and publication of educational material related to:
  - The use of open source GIS software
  - Open access land coverage data
  - Sustainable Development Goals (SDGs) indices calculation
- Developing case studies on SDG indices calculation using open source software and data
- Responsible for creating a WebBook using Python and Sphinx (<https://isprwebbook.readthedocs.io/en/latest/>)
- Output of this work summarized in conference paper: <https://doi.org/10.5194/isprs-archives-XLVIII-1-W2-2023-559-2023>

**Climbing Coach, Routesetter and Staff Member** Oct. 2019 – Jul. 2021

VOLT Boulder | Warsaw, Poland

- Set climbing routes at the gym
- Responsible for the safety of the customers at the gym

**Member of the Board of Directors** Mar. 2019 – Jun. 2021

University Alpine Club of Warsaw (UKA) | Warsaw, Poland

- Event organization, such as screenings of mountaineering film festivals
- <https://www.uka.pl/>

## TECHNICAL COMPETENCIES

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### Python

- Master's thesis processing done using Python and libraries such as GeoPandas, NumPy, GDAL, Rasterio, xarray.
- University courses such as, 'Artificial Intelligence', 'Data Mining', 'Software Engineering for Geoinformatics'
- Udemy course 'Machine Learning A-Z™. Hands-On Python & R In Data Science', edX course by HarvardX 'Using Python for Research'
- Experience with scientific computing using the Jupyter Lab environment

### QGIS and ArcGIS

- Used in analysis and result visualization for my Bachelor's and Master's thesis
- Extensive use throughout many university courses handling common raster and vector geospatial data types
- Experience in using tools such as ArcGIS Online through Esri Academy MOOC: 'Spatial Data Science: The New Frontier in Analytics'

### ENVI and SNAP

- Used SNAP in projects using SAR data, e.g. for monitoring volcanic activity prior to eruption with DInSAR
- Used ENVI in many projects, e.g.: analysis of land cover changes in Australia after the Bushfires 2019/2020 (NDVI and MSI analysis of changes)
- Used in many university courses such as: 'Environmental Remote Sensing', 'Digital Image Processing', 'Earth Observation'

### R

- University course 'Statistics I in R'
- Most of the computation for my Bachelor's thesis were carried out using R

### Java

- University course 'Object-oriented programming and design'

### Microsoft Office

- Proficient in using the Microsoft Office Suite

## LANGUAGES

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**Polish** - native

**Italian** - native

**English** - 8 IELTS proficiency; Master degree courses were conducted in English

**French, Spanish, Japanese** - A2