

MORITZ RÖSCH

EDUCATION

today
|
10/2021

- **M.Sc., Applied Earth Observation and Geoanalysis of the Living Environment (EAGLE)**
Julius-Maximilians-University  Würzburg, Germany
- **B.Sc., Geography**
Julius-Maximilians-University  Würzburg, Germany
 - Specialization: Remote Sensing, Physical Geography
 - Final grade: 1,3
 - Member of the Geography Student Council (internal organization, treasurer, first semester advising, institute communication, organization of events and lecture series)



RESEARCH AND WORK EXPERIENCE

12/2022
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10/2022

- **Intern**
RSS - Remote Sensing Solutions GmbH  München, Germany
 - Development of an automated processing pipeline for mapping bare soil areas at regional scale using Sentinel-2 time series
 - Modeling soil organic carbon content at regional scale based on spectral bare soil composite and LUCAS reference data
- **Research assistant project “Megacities”**
Team City and Society  Würzburg, Germany
German Aerospace Center (DLR)
Chair of English Linguistics
Julius-Maximilians-University
 - Analyzing sociocultural structures in megacities using the spatial distribution of Twitter data
 - Data preparation of Twitter data (implementation of filter methods)
 - Application of geostatistical and linguistic methods

07/2021
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04/2021

- **Bachelor-Thesis**
Team Natural Hazards  Remote
German Aerospace Center (DLR)
 - Thesis-Title: Monitoring of volcanic natural hazards in Indonesia. Change analyses based on high-resolution PlanetScope data combined with further Earth observation data (in German)
 - Develop new methods for mapping volcanic natural hazards (e.g., lava) based on high-resolution PlanetScope data, infrared data (Sentinel-2, Landsat-8, Terra/Aqua MODIS, Soumi-NPP VIIRS), and digital elevation models

02/2021
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10/2020

- **Student assistant (tutor)**
Chair of Remote Sensing  Würzburg, Germany
Julius-Maximilians-University
 - Direction and preparation of tutorials for the lecture *Introduction to Geographic Remote Sensing*

BIOGRAPHY

Born on 29.04.1997 in Radolfzell, Germany.

I am passionate about the analysis, evaluation and visualization of geodata. My interests and research focuses on the use of passive and active satellite data for the analysis of geographic processes of the earth's surface, especially the monitoring of natural hazards as well as the monitoring of land surface changes in alpine and urban areas.

CONTACT

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 [moritzroesch](#)
[ResearchGate](#)

02/2021 04/2020	Student assistant project “AgriSens” Chair of Remote Sensing Julius-Maximilians-University <ul style="list-style-type: none"> Collaboration in the development of an Open Data Cube (ODC) infrastructure Co-development of a Python package for processing multitemporal satellite data on the ODC platform Development of training and tutorial Jupyter notebooks for spatiotemporal analysis of geospatial data on the ODC platform 	📍 Würzburg, Germany
03/2020 01/2020	Intern Institute for Earth Observation Eurac research <ul style="list-style-type: none"> Evaluation of high-resolution PlanetScope data for applications in alpine regions Development of classification workflows for the mapping of mountain pine in South Tyrol Satellite-based monitoring of pest infestation and forest vitality 	📍 Bolzano, Italy
12/2019 10/2019	Intern Team Natural Hazards German Aerospace Center (DLR) <ul style="list-style-type: none"> Satellite-based volcano monitoring using thermal and infrared data Development of automated scripts for the calculation of erupted lava volume 	📍 Weßling, Germany
09/2019 05/2019	Student assistant project “LandKlif” Chair of Remote Sensing Julius-Maximilians-University <ul style="list-style-type: none"> Planning drone field campaign and taking aerial photos Processing of digital terrain models and orthophotos 	📍 Würzburg, Germany
07/2019 10/2018	Student assistant (tutor) Chair of Remote Sensing Julius-Maximilians-University <ul style="list-style-type: none"> Direction and preparation of the tutorials for the lecture <i>Introduction to Geographic Remote Sensing and Application of Remote Sensing in Geography</i> 	📍 Würzburg, Germany
05/2017 07/2015	Orientation internships <ul style="list-style-type: none"> HYDRO-DATA GbR: Field data sampling for groundwater monitoring and GIS analysis (04/2017 - 05/2017) COWA Service Gebäudedienste GmbH: Independent creation and management of IT training for branch offices (04/2017 - 05/2017) Schwenninger Wild Wings Spielbetriebs GmbH: Project collaboration in sports management (07/2015 - 08/2015) 	



PUBLICATIONS

Rösch, M.; Plank, S. (2022). Detailed Mapping of Lava and Ash Deposits at Indonesian Volcanoes by Means of VHR PlanetScope Change Detection. *Remote Sensing*, 14, 1168. <https://doi.org/10.3390/rs14051168>

Rösch, M.; Sonnenschein, R.; Buchelt, S.; Ullmann, T. (2022). Comparing PlanetScope and Sentinel-2 imagery for mapping mountain pines in the Sarntal Alps, Italy. *Remote Sensing*, 14, 3190. <https://doi.org/10.3390/rs14133190>

CONFERENCE CONTRIBUTIONS

Rösch, M.; Plank, S. (2022). Combining VHR PlanetScope imagery, HR short-wave infrared data and digital elevation models for mapping of lava flow deposits. Poster. *ESA Living Planet Symposium 2022*, 23.05. - 27.05.2022, Bonn, Germany.

SKILLS

- **Coding**
R, Python (*advanced*)
- **GIS / Remote Sensing Software**
QGIS, ArcGIS, ENVI (*advanced*)
Google Earth Engine (*advanced*)
SNAP, eCognition (*intermediate*)
GRASS GIS, SAGA GIS (*basic*)
- **Database / Cloud**
PostgreSQL, PostGIS (*basic*)
AWS S3 (*basic*)
- **Version Control**
Git, GitHub, GitLab (*advanced*)
- **Other Software**
MS Office (*advanced*)

Research interests

- Passive & active remote sensing
- Spatial data science
- Machine Learning & Deep Learning
- Natural hazards
- Alpine regions
- Synthetic aperture radar
- GIS & webmap

LANGUAGES

- **German**
Native language
- **English**
fluent in spoken and written
- **French**
school knowledge

FURTHER EDUCATION

09/2019

- **SAR EDU summer school for applied radar remote sensing**
Friedrich-Schiller-University  Jena, Germany
· five-day seminar (40 hours)

Made with the R package `datadrivencv` and `pagedown`.

12/2016
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06/2016

FOREIGN EXPERIENCE

- **Stay abroad Asia, Australia, USA**

The source code is available on [GitHub](#).

Last updated on 2023-03-26.