Lucas **van der Meer**

Geospatial Data Scientist

Salzburg, Austria

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I am a Master of Science in Geospatial Technologies who enjoys working at the interplay between theory and practice. My passion is to improve the quality of our living environments by supporting design choices with spatio-temporal data science.

Employment

Head of Research

Linz, Austria

Triply GmbH — *May 2019 —Present*

- Creating and extending methods to analyze and improve sustainable transport accessibility in urban and rural regions.
- Developing data-based solutions for enterprises to support sustainable commuter mobility.
- Solving vehicle routing problems to optimize the efficiency of sustainable transportation alternatives to large events.

Researcher

Salzburg, Austria

University of Salzburg, Department of Geoinformatics, Mobility Lab — *July 2022 —Present*

- Using spatial data science to quantify metrics of human-centered, multi-dimensional transport accessibility.

Researcher

Salzburg, Austria

University of Salzburg, Department of Geoinformatics, EO Analytics Lab — *May 2019 —July 2022*

- Developing a Python library that implements a structured workflow for semantic querying of Earth observation data cubes.

Junior GIS Specialist

Groningen, The Netherlands

University of Groningen Geoservice, Centre of Information Technology — *September 2016 —August 2017*

- Investigating the spatio-temporal patterns of supply shortage of shared bicycles in The Netherlands.
- Results were published in Dutch newspapers.

Student Assistant

Groningen, The Netherlands

University of Groningen, Faculty of Spatial Sciences — *September 2015 —January 2016*

- For the bachelor courses in Statistics and Spatial Information Technology.

Education

Master of Science in Geospatial Technologies

Lisbon, Portugal & Muenster, Germany

New University of Lisbon, Information Management School

University of Muenster, Institute for Geoinformatics — *2017 —2019*

- Reproducible spatial data science in R, Python and SQL.
- Geographic information science.
- Geostatistics and spatial statistics.
- Machine Learning and data mining of geospatial big data.
- Remote sensing.
- Project management and academic writing.
- For my master thesis, I created an automated spatio-temporal forecasting system for bike availability in dockless bike sharing systems, using time series forecasting methods. It was supervised by Prof. Dr. Edzer Pebesma. Grade: 20/20.

Academic minor in Mathematics & Statistics

Groningen, The Netherlands

University of Groningen, Faculty of Science and Engineering & Faculty of Economics and Business — *2015 —2016*

- Statistics and statistical reasoning.
- Probability theory.
- Calculus and linear algebra.

Bachelor of Science in Environmental and Infrastructure Planning

Groningen, The Netherlands

University of Groningen, Faculty of Spatial Sciences — *2013 —2016*

- Spatial information technology.
- Urban planning, environmental planning and water planning.
- Physical geography and economic geography.
- Environmental engineering and transport engineering.
- For my bachelor thesis, I investigated the change of the relative accessibility of peripheral regions in The Netherlands over time, using network analysis tools. It was supervised by Dr. Peter Groote. Grade: 9.5 out of 10.

Honors

Best Student Award *Muenster, Germany*

For the Master of Science in Geospatial Technologies *2019*

- Final grade: 19 out of 20.

Outstanding Regular Talk Award *Remote*

At the useR! Conference *2021*

- Tidy geospatial networks in R.

Selected publications

1. Van der Meer, L., Sudmanns, M., Augustin, H., Baraldi, A., & Tiede, D. (2022). Semantic querying in earth observation data cubes. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, *XLVIII-4/W1-2022*, 503–510. https://doi.org/10.5194/isprs-archives-XLVIII-4-W1-2022-503-2022
2. Sudmanns, M., Augustin, H., Van der Meer, L., Baraldi, A., & Tiede, D. (2021). The austrian semantic EO data cube infrastructure. *Remote Sensing*, *13*(23). https://doi.org/10.3390/rs13234807
3. Abad, L., & Van der Meer, L. (2018). Quantifying Bicycle Network Connectivity in Lisbon Using Open Data. *Information*, *11*, 14. https://doi.org/10.3390/info9110287

Selected software

1. sfnetworks: Tidy geospatial networks in R. (2022). https://www.github.com/luukvdmeer/sfnetworks
2. semantique: Semantic querying in Earth observation data cubes. (2022). https://www.github.com/ZGIS/semantique

Technical Skills

Programming languages R, Python, PostgreSQL (with PostGIS extension), Bash
Desktop GIS QGIS, ArcGIS, GRASS GIS
Geospatial tools GDAL, GEOS, PROJ, Leaflet, OpenStreetMap API, OSRM, OpenTripPlanner, R5
Reproducible research Docker, Binder, Git, GitHub, Quarto, Jupyter, Markdown, Latex

Soft Skills

Organization I was part of the organizing comittee of the Geomundus Conference in Lisbon, Portugal, 2018.
Management I was treasurer of the student cycle club in Groningen, The Netherlands, between 2013 and 2014.
Teamwork I have been a cyclist in several cycling teams up to elite level from 2012 until present.

Languages

Native Dutch
Advanced English, German
Basic Swedish, French, Spanish

References

Prof. Dr. Edzer Pebesma University of Muenster, Institute for Geoinformatics. Contact: edzer.pebesma@uni-muenster.de
Prof. Dr. Dirk Tiede University of Salzburg, Department of Geoinformatics. Contact: dirk.tiede@sbg.ac.at