

## Doctoral Researcher / PhD Positions on Implicit Neural Representations in Earth Observation

Dear prospective candidate,

**Position.** We invite applications for 1-2 full-time doctoral researcher positions in the [Laboratory for Machine Learning in Earth Observation](#) at the University of Bonn. The positions are part of the [AI Emmy Noether Research Group “Earth Embeddings: Learning Concept Maps from Neural Nets”](#) and are funded by the [German Research Foundation \(DFG\)](#) and the [Taylor Geospatial Institute](#) to build the next-generation neural-field representations for Earth observation. The project develops geospatial neural fields: continuous, queryable and uncertainty-aware representations of the planet that encode location, time, scale, sensor modality and environmental context.

**Topic.** The successful candidate will develop machine learning methods for spatial, temporal and multimodal data, i.e., satellite imagery, environmental variables, GIS layers and other geospatial data sources. This includes contributing to reusable benchmarks and open-source research software within existing collaborations and publishing at machine learning venues. The PhDs will be supervised by [Marc Rußwurm](#) in Bonn, with regular collaboration across a broader team including [Nathan Jacobs](#), [Caleb Robinson](#), [Esther Rolf](#), [Evan Shelhamer](#), [Hamed Alemohammad](#), [Hannah Kerner](#), [Isaac Corley](#) and [Konstantin Klemmer](#).

**Your Profile.** Applicants should have a very good Master’s degree in Computer Science, Geodesy, Remote Sensing, Machine Learning, Data Science, Geoinformatics, Computational Geoscience, Physics, Mathematics or a related field. We expect strong Python skills, experience with PyTorch or JAX, mathematical maturity in linear algebra, probability and optimization, and very good written and spoken English. Experience with implicit neural representations, neural fields, geospatial foundation models, uncertainty quantification, publications or open-source research software is advantageous.

**We Offer** a full-time doctoral researcher position according to TV-L E13 at the [University of Bonn](#), Germany’s most successful [University of Excellence](#). The position offers the opportunity to pursue a Ph.D. (Dr.-Ing.) in an internationally connected and interdisciplinary research environment at the intersection of computer science, geospatial data science, environmental science, and economics at the Machine Learning in Earth Observation Laboratory within the Institute of Food and Resource Economics. The University of Bonn provides a strong interdisciplinary research environment, structured doctoral support, access to scientific networks and support for conference participation and professional development.

**Application Details.** Applications should be submitted in English via the following form: <https://tally.so/r/LZk0Qy>. Please include a single PDF (max 10 MB) including a motivational cover letter (no more than 2 pages) and your CV. The cover letter should explain what motivates you to pursue a PhD in general and within this group. Please also include one research question or technical direction you would be curious to explore in this project.

**Start Date.** The anticipated start date is late summer 2026. The position is open until filled, and applications will be reviewed on a rolling basis.

Funded by