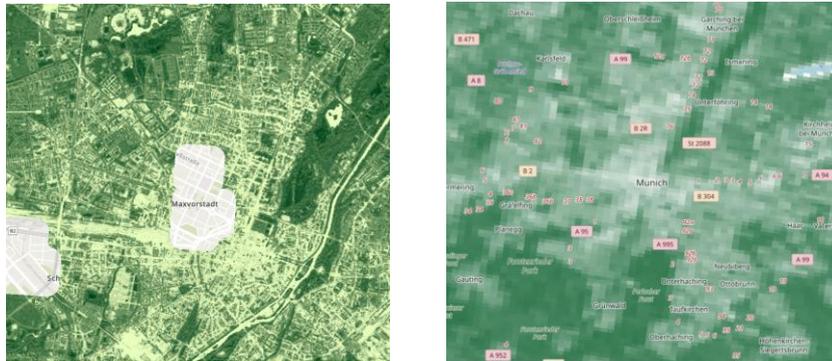


Master thesis in satellite data processing

Spatiotemporal Interpolation and Fusion of High-Resolution Satellite Data for Urban Area



High-resolution satellite datasets, such as the Sentinel-2 10-meter resolution vegetation index, are essential in evaluating vegetation carbon fluxes within urban areas. Nevertheless, Sentinel-2 data often face limitations due to factors such as acquisition times and cloud cover, resulting in gaps in both spatial and temporal coverage. The enhanced resolution also imposes significant computational and storage challenges.

Your task is to concentrate on interpolating the missing spatiotemporal data for Sentinel-2, with a particular emphasis on Munich. Furthermore, explore ways to merge vegetation indices derived from Sentinel-2 (e.g., EVI, LSWI, NDVI) with other lower-resolution satellite datasets.

The work includes:

1. Assess the data products of Sentinel-2 and derive the vegetation index from Sentinel-2 within a specified range for a chosen location.
2. Research and evaluation of spatial-temporal interpolation methods for Sentinel-2 vegetation index.
3. Explore integration methods between Sentinel-2 and other satellite data products.

Experiences with satellite data processing or image processing in Python are desirable but no prerequisite. Experience with GIS and data analysis are beneficial. Upon successful completion of the project the results might result in a publication. Supervision of the thesis can be in English or Chinese. The project can start immediately.

If you are interested or for any questions, please contact:

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