

## GeoAI-assisted mapping of urban environments for healthy cities

Department: Human Geography and Spatial Planning, Faculty of Geosciences

Research group: Planetary Health and spatial data science

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### Project description

How do the streets we walk in cities every day shape our health? The Health-Holland-funded ELEVATE project, a public-private partnership between Utrecht University, TU/e, and four industry partners, investigates how urban environments influence physical activity and well-being in Amsterdam. By combining street view imagery, environmental data, citizen perspectives, and AI-based analysis, the project aims to identify where and how urban street environments can be improved to promote active living for all residents and reduce health inequalities.

This project focuses on the microscale assessment of the built and natural environments for every street in Amsterdam. Using a geographic information system (GIS), remote sensing, and open geographic datasets (e.g., OpenStreetMap and street view imagery), you will develop high-resolution indicators describing features of streets and neighborhoods that modify opportunities for walking and cycling. Examples of indicators include street connectivity, visibility of and access to green spaces, land-use mix, and traffic characteristics. These indicators will form a comprehensive dataset that will later be linked to mobility and physical activity data.

As a Bright Minds assistant, you will be embedded in the ELEVATE team, working on a project intersecting GIS, computer vision, and urban health science. You will also gain experience collaborating with academic and industry partners, which may provide opportunities for a future thesis project. You will help collect, process, and analyze spatial datasets, develop environmental indicators, and support mapping and data integration. You will gain hands-on experience with GIS, spatial analytics, AI modeling, and urban environmental data, while contributing to research on healthy and active cities.

### Job requirements

We are looking for a student with experience in GIS and spatial data analysis, and ideally an interest in urban environments. Experience with GIS software (e.g., QGIS or ArcGIS) is required; basic Python or R skills are an advantage. Experience with machine learning methods is a plus. As a Bright Minds assistant, you will work with high-resolution spatial data to study how urban environments shape opportunities for healthy living. Tasks include developing GIS-based workflows, supporting environmental indicator modelling, and contributing to exploratory analyses. The work can be done partly remotely or on campus, with regular meetings with the supervisors.