



Masters Dissertation Scheme Project form



Company / Organisation Name:	Geolytix Ltd
Team / Department:	
Address:	Office 117 The Finsbury Business Centre, 40 Bowling Green Lane, London EC1R 0NE

Provisional title for project:

Estimating Global Worker Workplace Counts using Overture Data and Open Employment Sources

Short description of the problem that would be addressed by the project:

This project aims to develop an innovative approach to estimate the number of workers present at their workplaces, using a combination of Overture spatial data and publicly available employment statistics. The goal is to create a model that accurately reflects workforce distribution across different countries and industries, with a view to the model being adapted across any country where comparable datasets exist.

The aims will be to:

- Create a robust model for estimating worker counts at workplaces, adaptable across countries.
- Find insights into spatial patterns of employment, contributing to better urban and economic planning.
- Create a framework for integrating disparate spatial and employment data sources for analytical purposes including the use of LLMs to classify text descriptions of places.

Short description of the data sources that would be used in the project, and how they would be used

A combination of Overture spatial data, particularly building footprints and Points of Interest (POI) data, publicly available employment data from national statistics agencies, nighttime, and daytime population data (such as that provided by GHSL), and potentially other local and global datasets.

Geolytix can provide access to global population distribution datasets, which includes population counts, age, and affluence at grid and administrative level boundaries, as well as points of interest data.

Would any work by the student need to be carried out on site at the Company (with the exception of supervisory Meetings)?

Not necessary, but we have an office in Leeds and London where the student can work with us if helpful.

Any issues of data confidentiality and IPR that would need to be resolved

No

Essential skills

Spatial data integration, spatial analysis, and modelling

Desirable skills

Preferred degree programmes (if any)

Spatial Data Science or similar

Preferred selection method

Short interview

Support and training offered by the company

Data Analysis and Data Science support can be provided at our Leeds or London offices.

Financial assistance offered by the company

£500 stipend plus travel costs if needed.

Any other comments