

Research references

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Primary Reference:

<https://research.google/blog/insights-into-population-dynamics-a-foundation-model-for-geospatial-inference/>

Review of previous work:

Title	Abstract	Year	Github
Leveraging graph neural networks and mobility data for COVID-19 forecasting	This paper explores the use of GNNs combined with mobility networks to forecast COVID-19 trends in Brazil and China. It highlights the integration of spatial and temporal edges using Graph Convolutional Recurrent Networks (GCRN) and Graph Convolutional LSTM (GCLSTM). Techniques like backbone extraction and sliding windows are used to improve prediction accuracy.	2025	https://github.com/hodfernando/2024_ASOC_GNN_COVID19_Forecast .
Are Population Graphs Really as Powerful as Believed?	A critical evaluation of GNNs applied to population graphs, comparing their performance against simpler models like random forests. The study emphasizes the importance of graph construction methods and dataset complexity in determining GNN effectiveness.	2024	N/A
Using graph neural networks to predict local culture	Proposes a GNN approach to analyze neighborhood dynamics by incorporating multiple data sources, such as mobility graphs and socio-economic characteristics, to predict local cultural attributes.	2024	N/A
Classification of Spatial Objects with the Use of Graph Neural Networks	Proposes a method for multi-class classification of spatial objects using GNNs, comparing their performance against traditional spatial regression models.	2023	N/A