README: Graph Neural Network (GNN) Model for Gauteng (South Africa) and Switzerland

Overview

This repository contains a Graph Neural Network (GNN) model designed to analyze and compare data from Gauteng, South Africa, and Switzerland. The model leverages graph-based approaches to extract insights from various datasets, focusing on social, economic, and geographical factors.

Contents

- **Data**: Datasets used for training and evaluation.
- **Model**: Implementation of the GNN architecture.
- **Training**: Scripts and instructions for training the model.
- **Evaluation**: Methods for evaluating model performance.
- **Results**: Analysis and results of the GNN model.

Dataset

Gauteng, South Africa

- Data sources:South African Air Quality Information Systems (SAAQIS).
- Key features: PM2.5,PM10,CO,Wind Speed, Wind Direction , etc.

Switzerland

- Data sources: National Air Pollution Monitoring Network (NABEL).
- Key features: PM2.5,PM10,CO,Wind Speed, Wind Direction , etc.

Requirements

To run this project, you will need the following:

- Python 3.7+
- Required Python packages:
    - PyTorch
    - PyTorch Geometric
    - NumPy

- Pandas
- Scikit-learn
- Matplotlib