Implementation Plan: NYC Poverty & Food Assistance Analysis

This project aims to analyze poverty and food assistance in New York City using open datasets, develop predictive models for high-risk neighborhoods, and provide data-driven solutions for policymakers and NGOs. The plan below outlines the key steps, timelines, and resources required to successfully execute the project from October 20 to November 20.

Project Steps Overview

1. **Problem Identification & Goal Setting**
   - Define the scope: analyze poverty and food assistance across NYC neighborhoods.
   - Goal: identify high-risk areas and understand factors contributing to poverty and food insecurity.
2. **Data Collection & Research**
   - Locate and gather relevant datasets from NYC Open Data Portal, UN SDGs, and food assistance programs.
   - Resources: NYC Open Data Portal, published reports, Kaggle datasets.
3. **Data Preparation & Exploration**
   - Merge datasets and clean data.
   - Perform exploratory data analysis (EDA) to identify patterns and trends.
   - Tools: Python, Pandas, NumPy, Matplotlib, Seaborn.
4. **Predictive Modeling & Solution Development**
   - Build regression and tree-based models to predict neighborhood poverty rates.
   - Identify key features influencing poverty and food assistance demand.
   - Tools: Scikit-learn, Google Colab, Random Forest, Gradient Boosting, HistGradientBoosting.
5. **Presentation, Paper, and Video Creation**
   - Summarize findings, create visualizations, and develop recommendations.
   - Produce a final report, presentation slides, and an optional project video.
   - Tools: Google Docs, Google Slides, video editing software.

Timeline & Resources Table

Step	Tasks	Start Data	End Data
Problem Identification	Define scope, set project objectives	Oct 20	Oct 22
Data Collection & Research	Find relevant datasets, review articles	Oct 22	Oct 25
Data Preparation & EDA	Merge datasets, clean data, explore trends	Oct 25	Oct 30
Predictive Modeling	Train models, evaluate performance, feature importance	Oct 30	Nov 5
Solution Development	Generate recommendations, develop visuals	Nov 5	Nov 10
Presentation & Paper	Write report, create slides, finalize visuals	Nov 10	Nov 15
Project Video	Record & edit video overview	Nov 15	Nov 20