**Replication Package for “DESIGN-BASED INFERENCE FOR SPATIAL EXPERIMENTS UNDER UNKNOWN INTERFERENCE” (Wang, Samii, Chang, and Aronow, 2024)**

This folder contains the code and materials necessary to replicate the results from the paper *“Design-Based Inference for Spatial Experiments under Unknown Interference”* (Wang, Samii, Chang, and Aronow, *Annals of Applied Statistics*). The replication package is organized into three main folders: **SpatialEffect**, **simulation**, and **application**.

**SpatialEffect**: This folder contains a standalone R package that implements the proposed method. Installing this package is essential for replicating the empirical results presented in the main text and supplementary materials. Since the package includes functions written in C++, a C++ compiler, such as Xcode, is required for installation.

**simulation**: This folder contains R scripts used to generate all simulation-based results that appear in the main text and appendix. It also stores the data and figures generated during the simulation exercises. The subfolders are as follows:

1. **scripts**: Contains functions that generate simulated datasets and conduct the simulation exercises.

2. **data\_new**: This folder stores all simulation data and results generated by the scripts.

3. **graph\_new**: Contains all figures generated from the simulation exercises and used in the paper.

**application**: This folder contains R scripts used to generate all replication results that appear in the main text and appendix. It also stores the raw data from the empirical examples and the figures generated by the replication. The subfolders are as follows:

1. **scripts**: R code that replicates results from the two applications presented in the paper, Jayachandran et al. (2017) and Ferraro et al. (2015). The scripts use the *SpatialEffect* package.

2. **data**: Stores raw data from the two applications.

3. **graphs**: Contains all figures generated from the replication exercises and used in the paper.