

Reproduction guidelines for: A Model Selection Approach to Interference

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November 16, 2021

Reproduction

Source `makefile.R` to reproduce the analyses. Outputs pdf files of figures and tables.

Manifest

- `makefile.R`: Reproduces analyses
- `application.R`: Creates figures and table for reanalysis of experiment in Ghana analyzed in section 4
- `make_sims.R`: Simulates experiments as described in section 5, sourcing this file is optional and will take days on a personal computer
- `visualize_sims.R`: Creates figures for section 5
- `GHAadjmatrix.csv`: Road adjacency network of electoral areas in Ghana. Used in `make_sims.R`
- `IchinoSchuendeln_spilloversJOP.RData`: Ghana experiment used in `application.R`
- `IchinoSchuendeln_spilloversJOP_ELAdistances.RData`: Distance matrix of ELAs in Ghana. Used in `application.R`
- `sim_df.rda`: Output from `make_sims.R`. Used in `visualize_sims.R`

Environment

Hardware

For `application.R` and `visualize_sims.R`:

OS: Windows 10 Education 64-bit (10.0, Build 19043)

Processor name: AMD Ryzen 3 2200G

Processor speed: 3.5GHz (4 CPUs)

Memory: 16 GB

For `make_sims.R`:

OS: GNU/Linux distribution Scientific Linux 6.3

Nodes: 1

CPUs per node: 24

Memory per CUP: 8 GB

This is the compute cluster at the School of Earth, Society, and Environment at the University of Illinois. See <http://www.econ.uiuc.edu/~lab/the-cluster.html> for details.

Software

R version 4.0.5 (2021-03-31) -- "Shake and Throw"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

Packages

future.apply_1.6.0
future_1.18.0
caret_6.0-86
lattice_0.20-41
interference_0.1.0 (<https://github.com/szonszein/interference>)
sna_2.5
network_1.16.0
statnet.common_4.3.0
GGally_2.1.0
reshape2_1.4.4
MESS_0.5.6
sparsereg_1.2
MASS_7.3-53
glmnet_3.0-2
Matrix_1.2-18
DeclareDesign_0.28.0
estimatr_0.30.2
fabricatr_0.14.0
randomizr_0.20.0
broom_0.7.2
data.table_1.14.2
forcats_0.5.0
stringr_1.4.0
dplyr_1.0.7
purrr_0.3.4
readr_1.4.0
tidyr_1.1.4
tibble_3.1.5
ggplot2_3.3.5
tidyverse_1.3.0
here_0.1

Run time (hh:mm:ss)

application.R: 00:01:01
make_sims.R: 11:11:14
visualize_sims.R: 00:00:10