Spatial Statistics
and
Spatial Econometrics

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Practical Spatial Statistics & Econometrics with R

Session 1

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How to excel at spatial stats (or anything else)?

Understanding

Deep, clear and precise understanding of concepts, principles, theory.

Listening, Questioning, Reflecting

Solving by putting pen to paper (Writing)

Skill

Apply understanding to a variety of real world data and problems.

Doing, Trying, Failing (early)

Solving by putting fingers to keyboard (Coding)

Working things out on paper (Writing)

Excellence enables growth and fulfillment

Growth

Career, higher studies, research

Fulfillment

Good social impact, your own understanding of the world, contribution towards the most important problems in society

- Socio-economic (wealth inequality)
- Environmental (groundwater depletion)
- Financial (recessions)
- Epidemiological (pandemic)

What will we learn in the practical sessions?

Programming

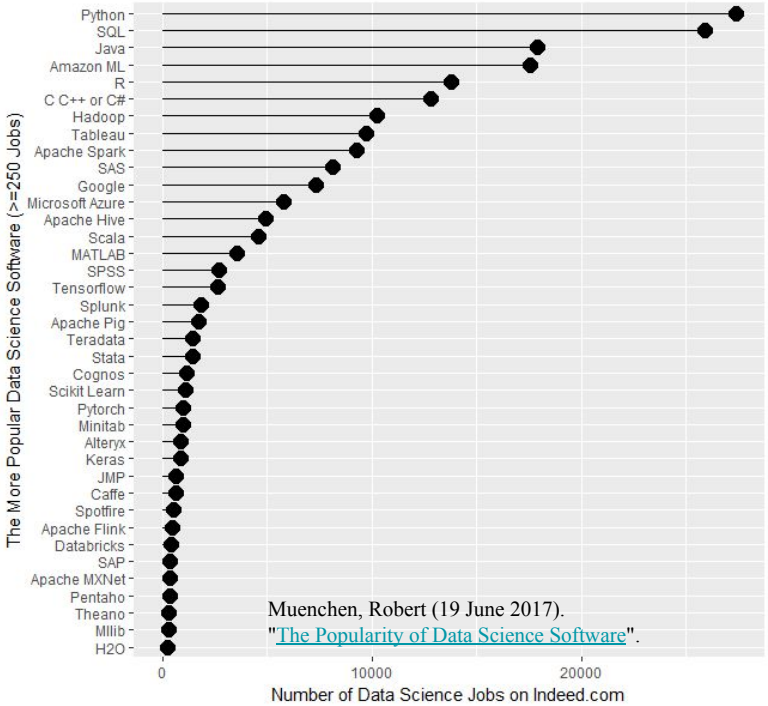
You will be able to use R for spatial statistical and econometric analysis.

Data

You will be able to download and work with examples of real world data.

What is R?

1. **R is a free software environment for statistical computing and graphics.**
2. **R is available as Free Software under the terms of GNU General Public License in source code form.**
3. **It provides functionality for flexible and easy data manipulation, calculation and graphical display**
4. **R can be extended (easily) via packages.**
5. **Heavy adoption in industry and academics.**



How to set up R on my computer? (Windows)

1. **Install the core R distribution.**
    a. **https://cran.r-project.org/bin/windows/base/**
2. **Install an integrated development environment (RStudio in our case).**
    a. **https://www.rstudio.com/products/rstudio/download/**
3. **Install packages and libraries for spatial statistics.**
    a. **Use the `install.packages` command**
4. **Note: R is also supported on UNIX platforms and MacOS.**

Demo 1: R Setup on Windows

Summary

- **Introduction to the R programming language**
- **Setup our computer for R (Windows)**
  - **R**
  - **RStudio**
  - **The `gstat` package**
- **Learned about the different parts of the RStudio IDE**