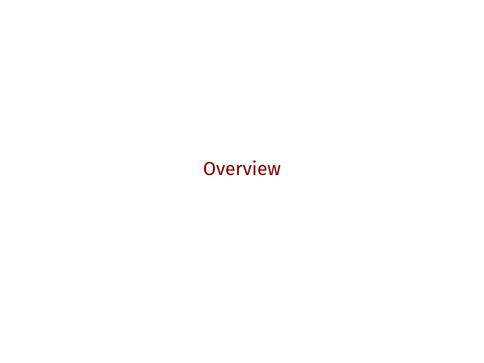
Introduction

Fall 2017

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Overview

Tools



Organization

Lectures are scheduled each Tuesday, starting November, 7th.

This will be a mix of R programming and statistical modeling, ranging from data crunching to data mining and machine learning.

- ► Nov, 7: R basics
- ► Nov, 14: Graphics with ggplot2
- ▶ Nov, 15*: R dplyr, database connection
- Nov, 28: Statistical modeling in R
- ► Nov, 5:
- ▶ Nov, 12: Reporting with R Markdown and Shiny
- ► Nov, 19: Final project

Synopsis

- ▶ R programming, statistical methods, hand-on practicals
- ► R Markdown report
- ► Combined use of practicals (20%), intermediate project (40%) and final assessment (40%).



Ressources

Ressources are available in the following Git-versioned repository: https://bitbucket.org/chlalanne/rstats-esme

You can fork the repository using http or ssh (git@bitbucket.org:chlalanne/rstats-esme.git) and keep posted with git pull. You can submit PRs if you like but please, don't push anything in the main repository.

Additional tools

- R and Rstudio
- ➤ Some R packages (and their dependencies which shall be installed automatically): tidyverse, ggplot2, data.table, leaflet, ...
- "R for Data Science" [R4DS] (Wickham and Grolemund 2017), (maybe) "Advanced R" [AR] (Wickham 2014), "An Introduction to Statistical Learning" [ISLR] (James et al. 2013)

The following command will download required packages for you:

```
source("get_packages.R")
```

Eventually, you may want to install on your local machine Git, jq and csvkit, as well as a good text editor (other than Notepad).¹

¹I will not be of any help in case you are running Windows on your computer.

References

James, Gareth, Daniela Witten, Trevor Hastie, and Robert Tibshirani. 2013. An Introduction to Statistical Learning with Applications in R. Springer New York. http://www-bcf.usc.edu/~gareth/ISL/.

Wickham, Hadley. 2014. Advanced R. Chapman & Hall/CRC. https://adv-r.hadley.nz.

Wickham, Hadley, and Garrett Grolemund. 2017. *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*. O'Reilly Media, Inc. http://r4ds.had.co.nz.