Statistical Inference II

PhD in Economics and Statistics, University of Milano-Bicocca

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Course website: https://aldosolari.github.io/SI2

Hypothesis testing is concerned with statistical testing of postulates (usually concerning parameters) in an empirical way, i.e., from data. This subject is fundamental in statistical inference. The course aims to introduce students to modern ideas in hypothesis testing, ranging from classical significance tests to post-selection inference.

1. Statistical hypothesis testing
    - Significance tests
    - Hypothesis tests
    - Hypothesis of equivalence
    - Link with confidence intervals
2. Reproducibility and replicability
    - The crisis of modern science
    - The law of selection
3. Multiple testing
    - Global tests
    - Methods for FamilyWise Error Rate control
    - Methods for False Discovery Rate control
4. Post-selection inference
    - Closed testing
    - Simultaneous control of False Discovery Proportions

Schedule

Lecture 1	April, 12	9:30 - 12:30
Lecture 2	April, 13	9:30 - 12:30
Lecture 3	April, 15	9:30 - 13:30
Lecture 4	April, 19	9:30 - 13:30
Lecture 5	April, 20	3:00 - 13:30

Course material, references, etc. will be available on the above course website.