Hypothesis Testing II

Introduction to Data Science Algorithms

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Details

- Important to pre-register hypothesis
- Check assumptions of tests: distribution, randomness, response
- Many other tests that are possible

Problems with Statistical Tests' Philosophy

- Failing to reject the null does not prove the null
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- Confusing statistical significance with practical significance ($\mu \neq 0$ could mean $\mu = 0.000001$)

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Often better:

- Present plot with confidence intervals, let people decide for themselves
- Create comprehensive model with explainable parameters, compute intervals for parameters

Next time . . .

- Example of χ^2 test
- Computing sample variance
- Example of unpooled *t*-test