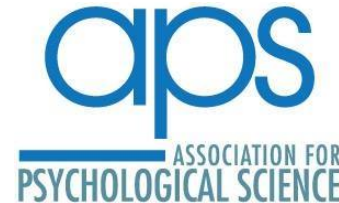




APS Workshop: Introduction to Python
San Francisco, CA, 24 May 2018



Statistics

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- scipy
 - Distributions
 - Simple stats (e.g., t , χ^2 , z , r , 1-way ANOVA)
- statsmodels
- pymc3
- bambi

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 - Streamlined, Bayesian GLMs built on top of `pymc3` (think brms?)

Statistics

Let's go do some stats!

scikit-learn

- Machine learning
 - Supervised
 - Classification (e.g., GLM, LDA, SVM, random forests)
 - Regression (e.g., ridge, lasso)
 - Unsupervised
 - Clustering (k-means)
 - Dimension reduction (e.g., PCA)
- All the extras needed to fit, evaluate, and use these tools

Take-homes

- Hopefully you have now learned...

Finish me

Outline

1. Overview
2. Ways of using Python
3. Python basics
4. Data set overview
5. Data wrangling
6. Statistics
7. Plotting
8. Experiment creation