APS Workshop: **Introduction to Python**
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Statistics

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Relevant Packages

- 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