Python for Data Analysis

The aim of data science

```
* Exploration
* Inferences/Prediction
* Causal Effect
```

Our primary tools for

```
- exploration are visualizations and descriptive statistics
- for prediction are machine learning and optimization
- for inference are statistical tests and models
```

Machine Learning

```
* How machine learns?
  * a video https://www.bilibili.com/video/BV1XW411A7sX?
from=search&seid=2314428156180319357
  * Another one: https://www.bilibili.com/video/BV1kZ4y1u7xS?
from=search&seid=2314428156180319357
```

深度学习推荐博客：

• https://www.zybuluo.com/hanbingtao/note/433855 • Books • • Harvard ‘Data Science’course, CS109, http://cs109.github.io/2014/index.html • UC Berkley, Introduction to Data Science course: https://www.inferentialthinking.com/chapters/01/what-is-data-science.html

Python modelling

```
* Focus on statistical models
    - Statsmodels(http://www.statsmodels.org/stable/)
    - Linearmodels(https://bashtage.github.io/linearmodels/)
* Machine learning
    - Scikit-learn(http://scikit-learn.org/stable/index.html)
    - Tensorflow(https://www.tensorflow.org/install/pip),中文
    - Pytorch(https://pytorch.org/)
```