Statistics and Data Science 265

Introductory Machine Learning

Tuesday, September 3

Yale

Outline

- Administrative items
- Elements of Python
- Demo

Office Hours

- Will be posted tomorrow to Canvas, EdD
- Mix of Zoom and onsite

Recordings

- Lectures are recorded
- Available on Canvas under “Media”

Upcoming

- Quiz 1 this Thursday, Sept 5
- Similar to “self assessment questions”
- Posted to Canvas after lecture
- Available for 48 hours (1pm on Saturday); 20 minutes once started
- Assignment 1 also posted Thursday, Sept 5
- Topics: Classification and regression

Recap

- Last time: Course overview, logistics
- Any questions?

For today

- Overview of important aspects of Python
- **Learn by using it!**
- Thursday: Further examples, start on regression

Concepts

- Python types: lists, tuples, strings, dictionaries
- Basics of iteration
- Comprehensions
- Arithmetic
- Printing
- NumPy and multi-dimensional arrays
- Array math
- DataFrames and pandas
- Matplotlib and basic plotting

Resources

- Anaconda Python: https://www.continuum.io
- Jupyter notebooks: jupyter-notebook.readthedocs.io
- PyCharm debugger: www.jetbrains.com
- *Introducing Python*, Bill Lubanovic, O'Reilly
- *Python in a Nutshell*, Alex Martelli et al., O'Reilly
- *Python Cookbook*, David Beazley, Brian K. Jones, O'Reilly
- Google's Python class: https://www.youtube.com/watch?v=tKTZoB2Vjukxo
- https://docs.python.org/3.5/tutorial
- *Lots* of other materials available on the web