Statistics and Data Science 265

Introductory Machine Learning

Tuesday, September 5

Yale

Outline

- Administrative items
- Elements of Python
- Demo

Office Hours — Posted to Canvas

Fall 2023

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Announcements

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Assignments

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Mid-Semester Feedback

Pages

Lecture materials and the topic schedule during the semester will be available at https://introml.ydata123.org

Office hours: (On Zoom/hybrid)

Instructor:

John Lafferty: Wednesday 11am-12

TFs:

Regina Wu: Tuesday 6-7 pm

Awni Altabaa: Thursday 4-5 pm

Kaylee Yang: Thursday 5-6 pm

Hannah Wang: Thursday 8-9 pm

Joanne Chen: TBA

ULAs:

Jai Chadha: Tuesday 1-2 pm

Kyle Wang: Tuesday 3-4 pm

David Zhang: Tuesday 7-8 pm

Howard Li: Wednesday 3-4 pm

Luke Reynolds: Wednesday 4-5 pm

Zach Brown, Jacob Wu: TBA

Office Hours — Posted to Canvas

Zoom link for OH accessible from Canvas

Upcoming

- Quiz 1 this Thursday, Sept 7
- Similar to “self assessment questions”
- Posted to Canvas after lecture
- Available for 28 hours (5pm on Friday); 20 minutes once started
- Assignment 1 also posted Thursday, Sept 7
- 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