



# Recap

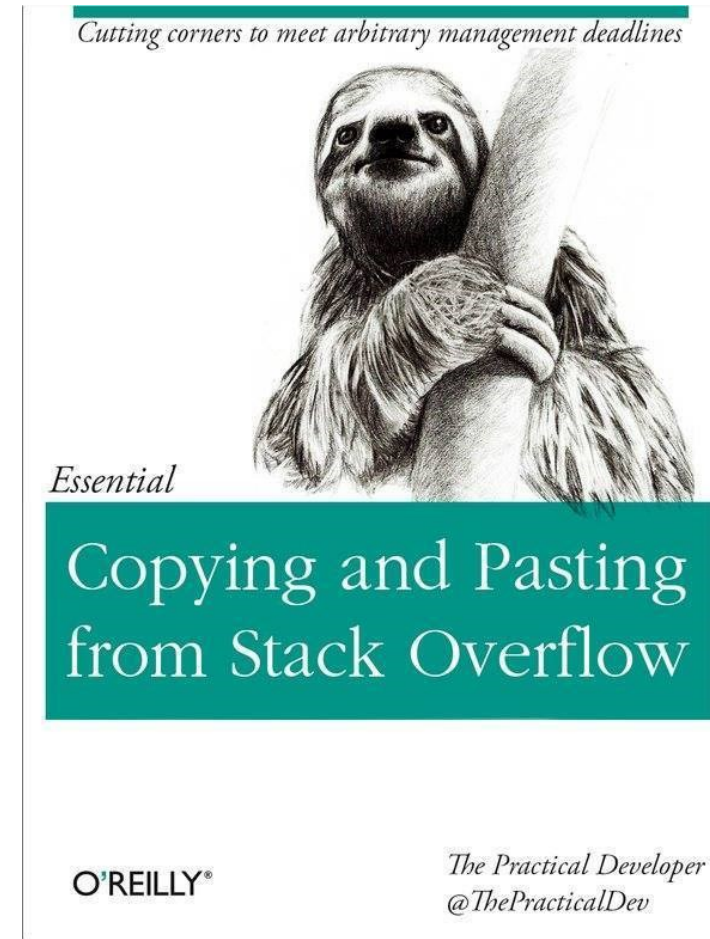
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# Motivation

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- ▶ As data scientists, we know that computers are great at aiding in repetitive tasks
  - ▶ We have a vast range of tools available at our fingertips that enable us to be more productive and solve more complex problems when working on any computer-related problem
  - ▶ Yet many of us utilize only a tiny fraction of those tools; In this mini-course, I will try my best to help you become familiar with what kind of tools may be useful in your research



# Basics

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- ▶ <https://learnxinyminutes.com/docs/python/>
- ▶ <https://gto76.github.io/python-cheatsheet/>
- ▶ <https://github.com/juliangaal/python-cheat-sheet/tree/master/NumPy>
- ▶ <https://scipy-lectures.org/>

# Lectures

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- ▶ Course website: <https://phonchi.github.io/nsysu-math524/materials> and Lab
- ▶ For the programming patterns: Reference book: *Practical Statistics for Data Scientists 50+ Essential Concepts Using R and Python*
  - ▶ Authors: Peter Bruce, Andrew Bruce and Peter Gedeck
  - ▶ <https://github.com/gedeck/practical-statistics-for-data-scientists>
- ▶ <https://github.com/jakevdp/PythonDataScienceHandbook/tree/v2/notebooks> v2
- ▶ <https://dafriedman97.github.io/mlbook/content/introduction.html>

## ► Pandas and matplotlib

- [https://pandas.pydata.org/Pandas\\_Cheat\\_Sheet.pdf](https://pandas.pydata.org/Pandas_Cheat_Sheet.pdf)
- <https://matplotlib.org/cheatsheets/>

## ► Statsmodel and Sklearn

- [https://scikit-learn.org/stable/supervised\\_learning.html#supervised-learning](https://scikit-learn.org/stable/supervised_learning.html#supervised-learning)
- [https://scikit-learn.org/stable/model\\_selection.html](https://scikit-learn.org/stable/model_selection.html)
- <https://scikit-learn.org/stable/visualizations.html>
- <https://scikit-learn.org/stable/modules/preprocessing.html>
- <https://www.statsmodels.org/stable/regression.html>
- [https://www.statsmodels.org/stable/generated/statsmodels.regression.linear\\_model.OLSResults.html](https://www.statsmodels.org/stable/generated/statsmodels.regression.linear_model.OLSResults.html)
- [https://www.statsmodels.org/stable/generated/statsmodels.stats.outliers\\_influence.OLSInfluence.html](https://www.statsmodels.org/stable/generated/statsmodels.stats.outliers_influence.OLSInfluence.html)
- <http://rasbt.github.io/mlxtend/>

## Search tips

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- ▶ [https://www.google.com/advanced\\_search](https://www.google.com/advanced_search)
  - ▶ <https://www.google.com/search?q=resume+site:cs.cmu.edu+filetype:pdf>
- ▶ <https://stackexchange.com/>
- ▶ <https://www.kaggle.com/code>
- ▶ <https://github.com/search>