

## Reading List

1. **Big data, machine learning and the social sciences**  
Müller, Andreas C. and Sarah Guido. "Introduction." Chapter 1 (pages 1-24) in *Introduction to Machine Learning with Python: A Guide for Data Scientists* O'Reilly Media, Inc.  
O'Neil, Cathy and Rachel Schutt. "Introduction: What is Data Science" Chapter 1 (pages 1-16) in *Doing Data Science*. O'Reilly Media, Inc.  
O'Neil, Cathy and Rachel Schutt. "Statistical Inference, Exploratory Data Analysis, and the Data Science Process" Chapter 2 (pages 17-50) in *Doing Data Science*. O'Reilly Media, Inc.
2. **Getting Started with Python**  
McKinney, Wes. "Python Language Basics, IPython, and Jupyter Notebooks." Chapter 2 (pages 15-54) in *Python for Data Analysis*, 2<sup>nd</sup> Edition (2017).
3. **Harvesting data from the web: APIs**  
Mitchell, Ryan. "Using APIs" Chapter 4 (pages 49-70) in *Web Scraping with Python: Collecting Data from the Modern Web* O'Reilly Media, Inc.  
"Chronicling America API." <http://chroniclingamerica.loc.gov/about/api/>
4. **Harvesting data from the web: Web scraping.**  
Mitchell, Ryan. "Your First Web Scraper." Chapter 1 (pages 3-12) in *Web Scraping with Python: Collecting Data from the Modern Web* O'Reilly Media, Inc.  
Mitchell, Ryan. "Advanced HTML Parsing" Chapter 2 (pages 13-30) in *Web Scraping with Python: Collecting Data from the Modern Web* O'Reilly Media, Inc.
5. **Manipulating Big Data**  
Vanderplas, Jake. "Data Manipulation with Pandas." Chapter 3 (pages 97-216) in *Python Data Science Handbook*. O'Reilly Media, Inc.
6. **Supervised Learning I**  
Müller, Andreas C. and Sarah Guido. "Supervised Learning." Chapter 2 (pages 25-69) in *Introduction to Machine Learning with Python: A Guide for Data Scientists* O'Reilly Media, Inc.
7. **Model Evaluation**  
Müller, Andreas C. and Sarah Guido. "Model Evaluation and Improvement." Chapter 5 (pages 251-304) in *Introduction to Machine Learning with Python: A Guide for Data Scientists* O'Reilly
8. **Supervised Learning II**  
Müller, Andreas C. and Sarah Guido. "Supervised Learning." Chapter 2 (pages 70-125) in

*Introduction to Machine Learning with Python: A Guide for Data Scientists* O'Reilly

**9. Working with Text Data**

Müller, Andreas C. and Sarah Guido. "Working with Text Data." Chapter 7 (pages 323-346) in *Introduction to Machine Learning with Python: A Guide for Data Scientists* O'Reilly

**10. Unsupervised Learning with Text Data**

Müller, Andreas C. and Sarah Guido. "Working with Text Data." Chapter 7 (pages 347-356) in *Introduction to Machine Learning with Python: A Guide for Data Scientists* O'Reilly

O'Neil, Cathy and Rachel Schutt. "Next-Generation Data Scientists, Hubris, and Ethics" Chapter 16 (pages 349-362) in *Doing Data Science*. O'Reilly Media, Inc.

*Reading:* Müller and Guido, Chapter 7.