

# Textbooks and other resources

Fraida Fund

## Machine Learning Concepts and Theory

- The Elements of Statistical Learning, (Hastie, Friedman, and Tibshirani), 2013. [NYU Library](#)
- An Introduction to Statistical Learning, (James, Witten, Hastie, and Tibshirani), 2013. [NYU Library](#)
- Pattern Recognition and Machine Learning, (Bishop), 2006. [PDF](#)
- Machine Learning: A Probabilistic Perspective, (Murphy). [PDF](#)
- Understanding Machine Learning: From Theory to Algorithms, (Shalev-Shwartz, Ben-David), 2014. [Website](#), [Download](#)

## Python and Programming for Machine Learning

- Python Data Science Handbook, (VanderPlas), 2016. [Github](#)
- Hands-on Machine Learning with Scikit-Learn, Keras, and TensorFlow (Géron), 2019. [NYU Library 1](#), [NYU Library 2](#), [Notebooks on Github](#)
- Python Machine Learning, (Raschka, Mirjalili), 2017. [NYU Library](#), [Notebooks on Github](#)

## Background (Linear Algebra, Optimization, Probability and Statistics)

### Linear Algebra

- Introduction to Applied Linear Algebra, (Boyd, Vandenberghe). [PDF](#)
- Summary notes on Linear Algebra (Stanford). [PDF](#)

### Optimization

- Convex Optimization, (Boyd, Vandenberghe). [PDF](#)
- Summary notes on Convex Optimization (NYU CDS). [PDF](#)

### Probability and Statistics

- Probability and Statistics for Data Science notes (Carlos Fernandez-Granda, NYU CDS). [PDF](#)
- Summary notes on Probability (Stanford). [PDF](#)

## Beyond Intro Machine Learning

- NYU CDS DS-GA 1008: Deep Learning. [Course Site](#)
- Textbook: Deep Learning, (Goodfellow, Bengio, Courville). [Website](#)
- Stanford CS231N: Convolutional Neural Networks for Visual Recognition. [Course Notes](#), [YouTube](#)
- Stanford CS224N: Natural Language Processing with Deep Learning. [Course Site](#), [YouTube Playlist](#)
- Harvard CS229br: Advanced Topics in Theory of Machine Learning (Boaz Barak). [Website](#)
- UCL (David Silver) Reinforcement Learning. [Course Site](#), [YouTube](#)
- Textbook: Reinforcement Learning (Sutton, Barto). [Website](#), [PDF](#)