

DATASCI 420: Main Textbooks

All of the books below are available for free to UW students via <https://learning.oreilly.com/home/>. You will need to use your UW NetID to access this page. Sign in using your UW NetID email and click on the *Using Single Sign-on (SSO)?* link above the *Password* field. You will be directed to a UW sign-in and then back to learning.oreilly.com. Both sites may take a few seconds to load.

Title	Python Data Science Handbook
Author	Jake VanderPlas
Publisher	O'Reilly Media, Inc.
ISBN	9781491912058
Abbreviation	PSDH

Title	Data Science from Scratch, 2nd Edition
Author	Joel Grus
Publisher	O'Reilly Media, Inc.
ISBN	9781492041139
Abbreviation	DSS

Lesson 1: Introduction to Machine Learning & the Data	
Lesson 2: Pitfalls of Machine Learning (and how to avoid them)	DSS Chapter 11 - Overfitting and Underfitting DSS Chapter 11 - The Bias-Variance Tradeoff DSS Chapter 15 - Regularization
Lesson 3: Feature Engineering	
Lesson 4: Feature Selection	
Milestone 1: Capstone - Project Definition	
Lesson 5: Decision Trees	PDSH Chapter 5 - In-Depth - Decision Trees and Random Forests DSS Chapter 17 - Decision Trees
Lesson 6: Ensemble Models	
Lesson 7: Support Vector Machines	PDSH Chapter 5 - In-Depth: Support Vector Machines
Milestone 2: Capstone - Initial Models	
Lesson 8: Neural Networks	DSS Chapter 18 - Neural Networks DSS Chapter 17 - Decision Trees Chapter 19 - Deep Learning
Lesson 9: Deep Learning I: Deep Neural Networks	

Lesson 10: Deep Learning II: Recurrent Neural Networks	DSS Chapter 17 - Decision Trees Chapter 21 - Recurrent Neural Networks
Milestone 3: Capstone - Final Project	

Additional Textbooks

All of the books below are available for free to UW students via <https://learning.oreilly.com/home/>

Title	Principles of Data Science - Second Edition
Author	Sunil Kakade, Sinan Ozdemir
Publisher	Packt Publishing
ISBN	9781789804546

Title	Python Data Science Essentials - Third Edition
Author	Luca Massaron, Alberto Boschetti
Publisher	Packt Publishing
ISBN	9781789537864

Title	Python Feature Engineering Cookbook
Author	Soledad Galli
Publisher	Packt Publishing
ISBN	9781789806311

Title	Practical Statistics for Data Scientists, 2nd Edition
Author	Peter Gedeck, Andrew Bruce, Peter Bruce
Publisher	O'Reilly Media, Inc.
ISBN	9781492072942

Title	Python Machine Learning - Third Edition
Author	Vahid Mirjalili, Sebastian Raschka
Publisher	Packt Publishing
ISBN	9781789955750

Title	Visual Models for Software Requirements
Author	Joy Beatty and Anthony Chen
Publisher	Microsoft Press
ISBN	9780735667730

Title	Hands-On Machine Learning with Scikit-Learn and TensorFlow
Author	Aurélien Géron
Publisher	O'Reilly Media, Inc.
ISBN	9781491962299