UCONN
UNIVERSITY OF CONNECTICUT

CSE 4502 – 001
CSE5717 - 001
Big Data Analytics

Syllabus - Spring 2024

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT.

Course and Instructor Information

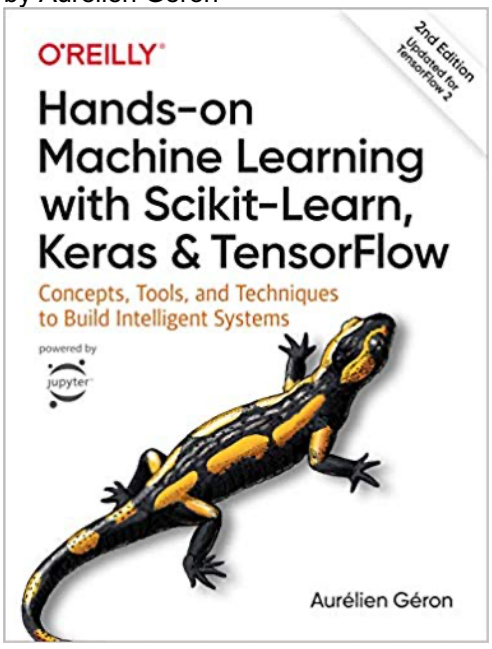
Course Title: CSE 4502 – 001/CSE 5717 -001 (Big Data Analytics) **Credits:** 3.
Prerequisites: CSE 3500, MATH 2210
Meeting time: TuTh 12:30PM - 1:45PM
Classroom: MCHU 302
Discussion: We use Piazza for discussion.
Official Announcements and Grades: We use the HuskyCT system available at lms.uconn.edu.
Class discussion and participation: We use i>Clicker for class discussion and participation.

Instructor: Wei Wei, Associate Professor in Residence
Email: wei.wei@uconn.edu
Office: ITE 258
Office Hours: Tuesday, Thursday 2 pm - 3 pm.
TAs: Rigel Mahmood (Graduate TA) rigel.mahmood@uconn.edu
Fernanda Hanashiro (UG) fernanda.hanashiro@uconn.edu Dheeraj Banala (UG) dheeraj.banala@uconn.edu
TA Office: ITE 114
TA Office Hours: Rigel Mon10 am – 11 am, Fernanda Wed 12pm – 1pm, Dheeraj Tue 3:30pm-4:30pm

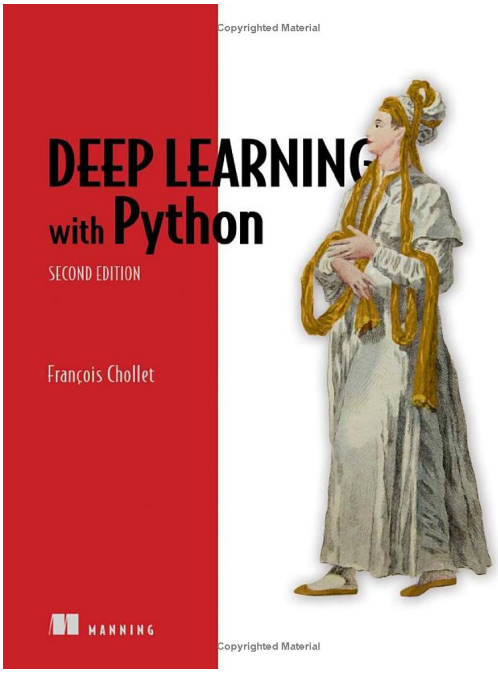
Course Materials

Required Textbooks:

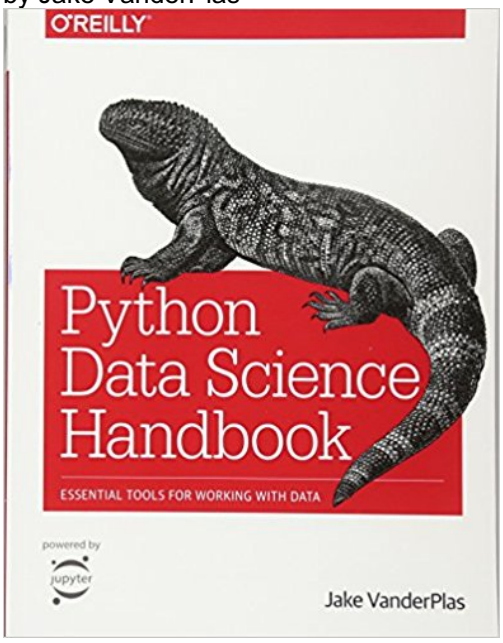
Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems 2nd Edition
by Aurélien Géron



Deep Learning with Python 2nd Edition
by Francois Chollet



Reference Book:
Python Data Science Handbook: Essential Tools for Working with Data 1st Edition
by Jake VanderPlas



Course Outline and Calendar

Tentative Lecture Schedule:

Week #1	NumPy, Pandas, and Matplotlib
Week #2	End-to-End Big Data Analytics Project
Week #3	Classification
Week #4	Training Models
Week #5	Support Vector Machines and Decision Trees
Week #6	Ensemble Learning and Random Forest
Week #7	Dimensionality Reduction Unsupervised Learning Techniques
Week #8	Midterm Exam
Week #9	Fundamentals of Deep Learning
Week #10	Deep Learning for Computer Vision
Week #11	Deep Learning for Text and Sequences

Week #12	Autoencoders
Week #13	Advanced Deep-learning Best Practices Generative Deep Learning
Week #14	CSE5717 Team project presentations

Homework and programming assignments:

There will be 8 programming assignments. Each worth 6 points in total grade. Programming assignments need to be submitted electronically via HuskyCT. **Note the only accepted file format is .ipynb.**

Course Requirements and Grading

Summary of Course Grading:

CSE4502 Course Components	Weight
Programming Assignments	48%
Midterm Exam	22%
Final Exam	30%

CSE5717 Course Components	Weight
Programming Assignments	48%
Midterm Exam	17%
Final Exam	17%
Team Project	18%

Note: Random quizzes will be given in class and out of class, and can add up to 3 extra points.

Grading Scale:

Grade	Letter Grade	GPA
93-100	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
67-69	D+	1.3
63-66	D	1.0
60-62	D-	0.7
<60	F	0.0

Due Dates and Late Policy

All course due dates are identified in the (choose appropriate location). Deadlines are based on Eastern Standard Time; if you are in a different time zone, please adjust your submittal times accordingly. *The instructor reserves*

the right to change dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.

No late homework accepted.

Feedback and Grades

I will make every effort to provide feedback and grades in one week**.** To keep track of your performance in the course, refer to My Grades in HuskyCT.

Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

- The Student Code
  - Academic Integrity
  - Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

Students with Disabilities

Students needing special accommodations should work with the University's Center for Students with Disabilities (CSD). You may contact CSD by calling (860) 486-2020 or by emailing csd@uconn.edu. If your request for accommodation is approved, CSD will send an accommodation letter directly to your instructor(s) so that special arrangements can be made. (Note: Student requests for accommodation must be filed each semester.)

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from Blackboard's website)

Help

Technical and Academic Help provides a guide to technical and academic assistance.

This course is completely facilitated online using the learning management platform, HuskyCT. If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the Help Center. You also have 24x7 Course Support including access to live chat, phone, and support documents.

Evaluation of the Course

Students will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are administered by the Office of Institutional Research and Effectiveness (OIRE).

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.