

DATA 4319 — Statistical and Machine Learning



Instructor: Randy R. Davila

Email: DavilaR@uhd.edu.

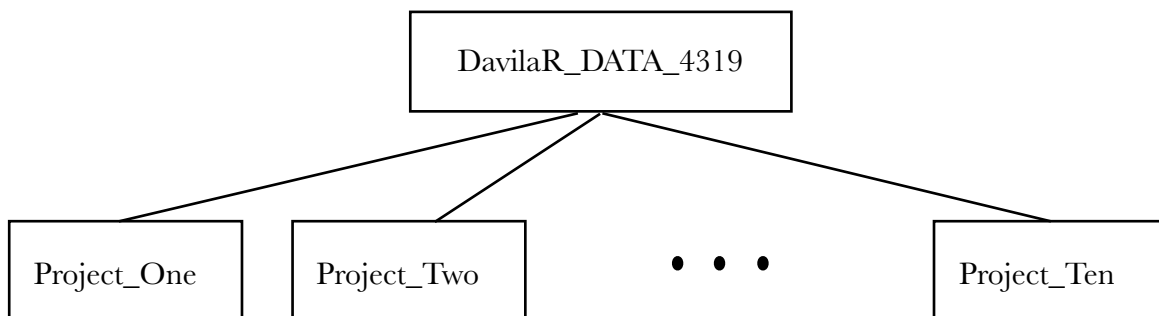
Phone: 713-221-5876

Office: S727

Textbooks:

- “*Learning From Data*” by Y.S. Abu-Mostafa, M. Magdon-Ismail, and H. Lin
- “*Machine Learning An Algorithmic Perspective*” 2nd Edition, by S. Marsland

Course Description: This senior level data science course blends the predictive perspective of statistical pattern recognition as well as the algorithmic perspectives of machine learning. Topics include, but are not limited to: essential components of learning, feasibility of learning, linear models (the perceptron learning algorithm, linear regression, logistic regression), deep neural nets, stochastic gradient descent, and modeling with TensorFlow (and Flux). Knowledge of at least one open source programming language such as Python or Julia is required. Course notes and relevant Jupyter notebooks will be made readily available at: https://github.com/RandyRDavila/Teaching/tree/master/UHD_DATA.



Grading Policy: The grading of this course is based solely on programming and writing assignments. Each student will need a Github repository with directory structure depicted above; name your main directory according to your own name. Each sub-directory will be worth 10 points, of which at least nine must consist of suggested implementations (and instructor improved implementations of student suggestions) of algorithms discussed in class; one, and only one, sub-directory may consist solely of PDF documents generated by LaTeX of various textbook assigned homework problems (2 points per written problem) assigned during the semester. At the end of the semester the instructor will view each students GitHub repository and course grades according to the total the points generated by the sub-directories: 100 - 90 points (A), 89 - 80 points (B), 79 - 70 points (C), 69-60 points (D), 59 - 0 (F). Sub-directory grades will be assigned according to: correctness of algorithms, documentation, and language specific syntax.

General University Policies: All students are subject to UH-Downtown Academic Honesty Policy and to all other university-wide policies and procedures as they are set forth in the UH-Downtown University Catalog and Student Handbook.

Statement on Reasonable Accommodations: UH-Downtown complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students with a disability. In accordance with Section 504 and ADA guidelines, UHD strives to provide reasonable academic/auxiliary aids to students who request and require them. If you believe that you have a documented disability requiring academic adjustments/ auxiliary aids, please contact the Office of Disability Services, One Main St., GSB314, Houston, TX. 77002. (Office) 713-221-5078 (Website) www.uhd.edu/disability/ (Email) disabilityservices@uhd.edu