MAT386E , **Computational Data Science**, 2023-24 FALL

<u>Textbook(s):</u> Géron A., Hands-On Machine Learning with Scikit-Learn and TensorFlow, O'Reilly Media, Inc, 2017.

Weeks	Topics
1	Data Science: Big data and project management
2	Machine learning: Linear Regression, Polinomial Regression
3	Machine learning: Classification
4	Machine learning: Clustering
5	Deep learning: Basic deep learning method and applications
6	Text Processing: What is NLP? NLP Techniques, Current Technologies and Applications
7	Big Data Platforms: Architecture, Tools and frameworks
8	Data Storage
9	Data extraction, transformation and loading (ETL)
10	Batch Data Processing
11	Streaming Data Processing
12	Spark ML: Variable selection and transformation, regression, clustering model evaluation
13	Data visualization & Scoring
14	Project Presentations

<u>Assessment of the Grades</u>

- 4 Homeworks   : 30%
- 1 Term Project   : 30%
- 1 Final Exam   : 40%
- Attendance   : Not required

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