

Todd's Sections

Week 1: Kick-off course

Student introductions. Discuss Norvig papers. Tutorial notebook in breakout rooms.

Week 2: Nearest Neighbors

Review NN lecture. NN notebook in breakout rooms.

Week 3: Naive Bayes and text classification

Discuss NB applications—spam (Graham), spelling (Norvig) in breakout rooms. NB Notebook in breakout rooms.

Week 4: Decision Tress and Ensembles

Review DT lecture. DT Notebook in breakout rooms.

Week 5: Deep breadth

Compare NN, NB, DT. Discuss AUC measure. Ensembles notebook in breakout room. Lecture review time permitting.

Week 6: Gradient Descent

Review GD. Regression Notebook in breakout rooms.

Week 7: Neural Networks

Review NN lecture. NN notebook part 1 in breakout rooms.

Week 8: Applied SVMs and wrap-up of supervised learning

Discussion of SVM libraries and their evolution. Comparison of algorithms learned so far. NN notebook part 2.

Week 9: Deep Learning

Introduce convolutional nets. NN notebook part 3.

Week 10: Unsupervised learning.

KMeans review. EM review. Means notebook in breakout room.

Week 11: PCA and Case Study

PCA review. Kaggle case study.

Week 12: Network Science

Group discussion of network science history, algorithms, visualizations, and tools.

Week 13: Recommendations and Personalization

Group discussion of recommender. Kaggle case study time permitting.

Week 14: Student Presentations