

## **Linear Regression, Estimation, Generalization**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-2.pdf>

## **Polynomial Regression, Cross-Validation, Statistical View**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-3.pdf>

## **Classification, Decision Theory, Logistic Regression**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-5.pdf>

## **Naive Bayes**

[https://ocw.mit.edu/courses/sloan-school-of-management/15-097-prediction-machine-learning-and-statistics-spring-2012/lecture-notes/MIT15\\_097S12\\_lec07.pdf](https://ocw.mit.edu/courses/sloan-school-of-management/15-097-prediction-machine-learning-and-statistics-spring-2012/lecture-notes/MIT15_097S12_lec07.pdf)

## **MAP Estimation, Regularization, Intro to SVM**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-6.pdf>

## **KNN:**

[https://sebastianraschka.com/pdf/lecture-notes/stat479fs18/02\\_knn\\_notes.pdf](https://sebastianraschka.com/pdf/lecture-notes/stat479fs18/02_knn_notes.pdf)

## **SVM and Kernels**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-7.pdf>

## **Decision Trees:**

[https://github.com/rasbt/stat479-machine-learning-fs19/blob/master/06\\_trees/06-trees\\_\\_notes.pdf](https://github.com/rasbt/stat479-machine-learning-fs19/blob/master/06_trees/06-trees__notes.pdf)

## **Feature Selection and Intro to Boosting**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-9.pdf>

## **Boosting and Ensembles**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-10.pdf>

[https://github.com/rasbt/stat479-machine-learning-fs19/blob/master/07\\_ensembles/07-ensembles\\_\\_notes.pdf](https://github.com/rasbt/stat479-machine-learning-fs19/blob/master/07_ensembles/07-ensembles__notes.pdf)

## **Probability Models / Mixtures / EM Algorithm (Start at slide 15):**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-13.pdf>

## **EM and GMMs:**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-14.pdf>

## **Clustering:**

<http://www.ai.mit.edu/courses/6.867-f04/lectures/lecture-16.pdf>

**TODO:**

**Bias Variance**

**Model Selection**

**Validation**

**PCA**

**Dimensionality Reduction**

**DBSCAN Hierarchical Clustering**