9.520: Statistical Learning Theory and Applications - Fall 2014

WIKIPEDIA entries

Loss functions surrogates for classification

Multiple Instance Learning

Unsupervised Learning: density estimation, dimensionality reduction

Sample Complexity

Regularized least squares (RLS)

Hyperbf

Multiple Kernel Learning

Lasso

Structured Sparsity

RKHS

Subspace Learning

Subspace Clustering

Statistical Learning Theory

Stability for learning

Invariance Theorem

M-Theory

Boosting

Sparse Dictionary Learning

Basis Functions/Frames

Generalization Error

Convolutional Neural Networks

Nystrom approximation for learning with kernels

Random features for learning with kernels

Matrix Completion

Matrix Learning

Matrix Regularization

Proximal Operator for Matrix function

Diffusion Maps

Spectral Clustering

Subspace Clustering

Feature Learning Representation

Computational Learning Theory

Deep Learning

Online Learning

Sparity

Empirical Risk Minimization

Radial basis function network

GURLS/Coding/Implemetions

Lasso & Elastic Net

Matching pursuit and Orthogonal Matching Pursuit

Semisupervised learning with Graph Laplacian

(Overlapping) Group Sparsity

Logistic regression

SubG SVM

PCA & KPCA

Nystrom approximation

GURLS Python wrapper

Permutation tests

GUI

Visualization tools

Book Chapters for EXERCISES

1. Statistical Learning Theory

2. Foundational Results

3. Hypothesis Spaces

4. Regularization Networks

5. Regularization: Beyond Penalization

6. Sparsity, Low Rank

7. Online Learning

8. Manifold Regularization

Generalization Bounds, Introduction to Stability

Stability of Tikhonov Regularization