AML Schedules

1. Introduction
2. Bayesian decision theory, statistical learning from data
3. Linear Discriminant Analysis (LDA), Single-Layer Perceptron (SLP)
4. LDA, SLP, and Fisher criterion, XOR and Multi-Layer Perceptron (MLP)
5. MLP and Backpropagation (BP) algorithm
6. MLP application and interpretation
7. Principal component analysis, APEX algorithm, Autoencoder
8. Radial Basis Function (RBF) NN and interpretation
9. Performance assessment, statistics of supervised learning, bias/variance overfitting issues
10. The curse of dimensionality, cross-validation
11. Support vector machine (SVM)
12. More on SVM
13. More on SVM
14. Feature selection
15. Overview on pattern recognition
16. Multiple testing and p-value, ROC analysis
17. Bootstrap resampling technique
18. Data clustering algorithms
19. More on Data clustering
20. Mixture model, EM algorithm, model selection
21. Applications of data clustering
22. Latent variable modeling, blind source separation, independent component analysis (ICA), non-negative matrix factorization (NMF)
23. Convex Analysis of Mixture (CAM) with appplications
24. Variable selection in linear regression, LASSO principle
25. Differential Dependency Network (DDN) analysis and applications