Deep Learning Course Schedule

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1. Intro to supervised learning
2. Overfitting, underfitting
3. What is a neural network?
4. Activation functions
5. Gradient Descent
6. Linear Regression, Logistic Regression
7. L_1 and L_2 regularizations
8. Softmax classifier
9. Measures for classification problems
10. Stochastic and mini-batch gradient descents
11. Introduction to TensorFlow
12. Back propagation
13. Data normalization
14. Random Initialization
15. Vanishing / Exploding gradients
16. Dropout
17. Moving averages
18. Batch normalization

19. Gradient descent with momentum
20. RMSprop
21. Adam optimization algorithm
22. Data augmentation
23. Convolutional neural networks
24. LeNet-5
25. AlexNet
26. VGGs
27. ResNets
28. Inceptions
29. Transfer learning
30. Multi-Task Learning
31. Basic RNNs
32. LSTM and GRU
33. Bidirectional and deep RNNs
34. Attention models
35. Transformer
36. Dilated and transposed convolutions
37. Kullback–Leibler divergence
38. Intro to unsupervised learning
39. Autoencoders
40. Contractive autoencoders
41. Sparse autoencoders

42. Denoising autoencoders
43. Variational autoencoders
44. Gererative adversarial networks
45. Conditional GANs
46. Cycle and DISCO GANs
47. Wasserstein GANs
48. Ensemble of Neural Networks
49. Basic Recurrent Neural Networks
50. Bayesian neural networks
51. Word2Vec