Syllabus

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1 Frameworks and Technologies

1.1 Mandatory readings

1. Dive into Deep Learning (2.1-2.5)

2. Dive into Deep Learning (chapter 6)

3. Deep Learning with PyTorch (chapter 3)

1.2 Optional readings

1. PyTorch Beginners List

2. PyTorch style advice: Avoid inplace

3. Indexing on ndarrays

4. Git Tutorial

2 Foundations of Neural Networks

2.1 Mandatory readings

1. Deep Learning (5.5)

2. Deep Learning (6.2.2.2-6.2.2.3)

3. Dive into Deep Learning (3.1, 3.6)

4. Dive into Deep Learning (4.1, 4.4-4.7)

5. Dive into Deep Learning (5.1-5.4)

6. Initialization of Neural Networks

2.2 Optional readings

1. Softmax Stability

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3   Convolutional Neural Networks (CNNs)

3.1   Mandatory readings

1. Dive into Deep Learning (7)

2. Dive into Deep Learning (8)

3.2   Optional readings

1. Mastering Fold and Unfold

2. Extending Autograd

3. Advanced PyTorch Tutorial

4   Optimization and Regularization

4.1   Mandatory readings

1. Dive into Deep Learning (5.5-5.6)

2. Dive into Deep Learning (12)

3. Overview Normalization techniques

4.2   Optional readings

1. Early stopping article

5   Recurrent Neural Networks (RNNs)

5.1   Mandatory readings

1. Dive into Deep Learning (9)

2. Dive into Deep Learning (10)

5.2   Optional readings

1. Deep Learning (10.2)

6   Unsupervised Deep Learning

6.1   Mandatory readings

1. Deep Learning (14.1-14.5)