Mark Demore, 2d Lt

CSCE823 – Dr. Borghetti

Student Lecture Topic Proposal

No scheduling preference

1. Temporal Convolutional Networks

Why: Relevant to research and course project

Sources:

1. <https://medium.com/@raushan2807/temporal-convolutional-networks-bfea16e6d7d2>
2. <https://medium.com/the-artificial-impostor/notes-understanding-tensorflow-part-3-7f6633fcc7c7>

iii) <https://dida.do/blog/temporal-convolutional-networks-for-sequence-modeling>

Learning Activity:

Lecture - <https://www.youtube.com/watch?v=nMkqWxMjWzg>

Coding Activity - <https://www.youtube.com/watch?v=i390g8acZwk>

1. Hebbian Learning

Why: Relevant to research and course project

Sources:

1. <https://medium.com/datadriveninvestor/what-is-hebbian-learning-3a027e8e4bbb#:~:text=Hebbian%20Learning%20is%20inspired%20by,basis%20for%20neural%20learning%20today.>
2. <https://en.wikipedia.org/wiki/Hebbian_theory>
3. <https://www.cs.bham.ac.uk/~pxt/NC/l5_JB.pdf>

Learning Activity:

Lecture - <https://www.youtube.com/watch?v=dMV7649c7xI>

Shorter Lecture - <https://www.youtube.com/watch?v=XXMF_uCupOA>

Coding Activity - <https://www.bonaccorso.eu/2017/08/21/ml-algorithms-addendum-hebbian-learning/>

1. Unsupervised Pretraining

Why: Relevant to research and course project

Sources:

1. <https://machinelearningmastery.com/greedy-layer-wise-pretraining-tutorial/>
2. Ian Goodfellow, Yoshua Bengio, and Aaron Courville.Deep Learning. MITPress, 2016. <http://www.deeplearningbook.org>.
3. <https://medium.com/@andrehuang0/representation-learning-1-greedy-layer-wise-unsupervised-pretraining-de483ead2d0a>

Learning Activity:

Lecture - <https://www.youtube.com/watch?v=5q_y52NJgAg>

Coding Activity - <https://machinelearningmastery.com/greedy-layer-wise-pretraining-tutorial/>