

Spring 2019
MA 721 Topics in Numerical Analysis - Deep Learning.
MWF 1:00-1:50 - CB 343

Instructor: Dr. Qiang Ye
735 POT, 257-4653, qye3@uky.edu

Syllabus: In this course, we study a widely applicable class of machine learning methods called deep learning. The following topics will be covered.

- Deep Feedforward Networks
- Regularization
- Convolutional Networks
- Sequence Modeling: Recurrent Neural Networks
- Unsupervised Learning

Selected materials from linear algebra, optimization, and probability and information theory will be presented as needed. There will be no required text, but the following books will be good references:

- Ian Goodfellow, Yoshua Bengio and Aaron Courville, Deep Learning, MIT Press, 2016.
- Charu C. Aggarwal, Neural Networks and Deep Learning, Springer, 2018.

Grading: Grading will be based on programming projects and in-class presentations.