FE539 Computational Finance (2020 Fall)

Instructor
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Course description
The second half course covers various models for financial time series forecasting. After reviewing a few white-box models related to neural networks, students will learn the basics and training process of deep neural networks. Among the various deep learning models, we will more focus on RNN or related models such as LSTM or GRU, which are especially useful for sequential data modeling.

Prerequisites
Students with undergraduate level knowledge in statistics, linear algebra, and calculus and coding experience in Python will have no difficulty following this course.

Weekly Plan

Week 9	Supervised Learning Linear Regression
Week 10	Logistic Regression, Softmax Regression
Week 11	Support Vector Machine
Week 12	Introduction to Artificial Neural Networks Deep Neural Networks Backpropagation
Week 13	Issues In Training Deep Neural Networks
Week 14	Recurrent Neural Networks (RNN)
Week 15	Long Short Term Memory (LSTM) Gated Recurrent Units (GRU)
Week 16	Final Project Presentation