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Stock indices and prices prediction using CNN-BiLSTM-Attention model

Stock price prediction is important and challenging. Accurate prediction of stock price helps investors to make investment strategies. Based on characteristics of stock data such as nonlinearity and time series, a stock price prediction method based on CNN-BiLSTM-Attention model is presented. In our study, first, the convolutional neural networks (CNN) and Bi-directional long short-term memory (BiLSTM) networks are used to extract time-series features of serial data. Then, the attention mechanism is introduced to fit weight assignments to information features, and last, the prediction results are output through the dense layer. Empirical studies using historical data from China and North American markets will be presented. This is joint work with L. Ye, J. Zhang, and Y. Lai