1   Abstract

Most machine learning algorithms are designed for independent and identically distributed data but many interesting data, like time-series data, are sequential, which require the learning algorithm to use contextual information across data points.

Recurrent Neural Networks are specialised Neural Networks which can hold "memory" of past events. In particular a type of RNN architecture, Long Short Term Memory, has been found to be suited to learning long-term temporal dependencies without running into problems of exploding or vanishing gradients.

For this project we are working on applying the LSTM architecture to forex prediction. We will be benchmarking its performance against other commonly used algorithms for time-series data. The main challenge will be in searching the optimal hyperparameters for the LSTM architecture and addressing overfitting by various strategies like addition of dropout layers.

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