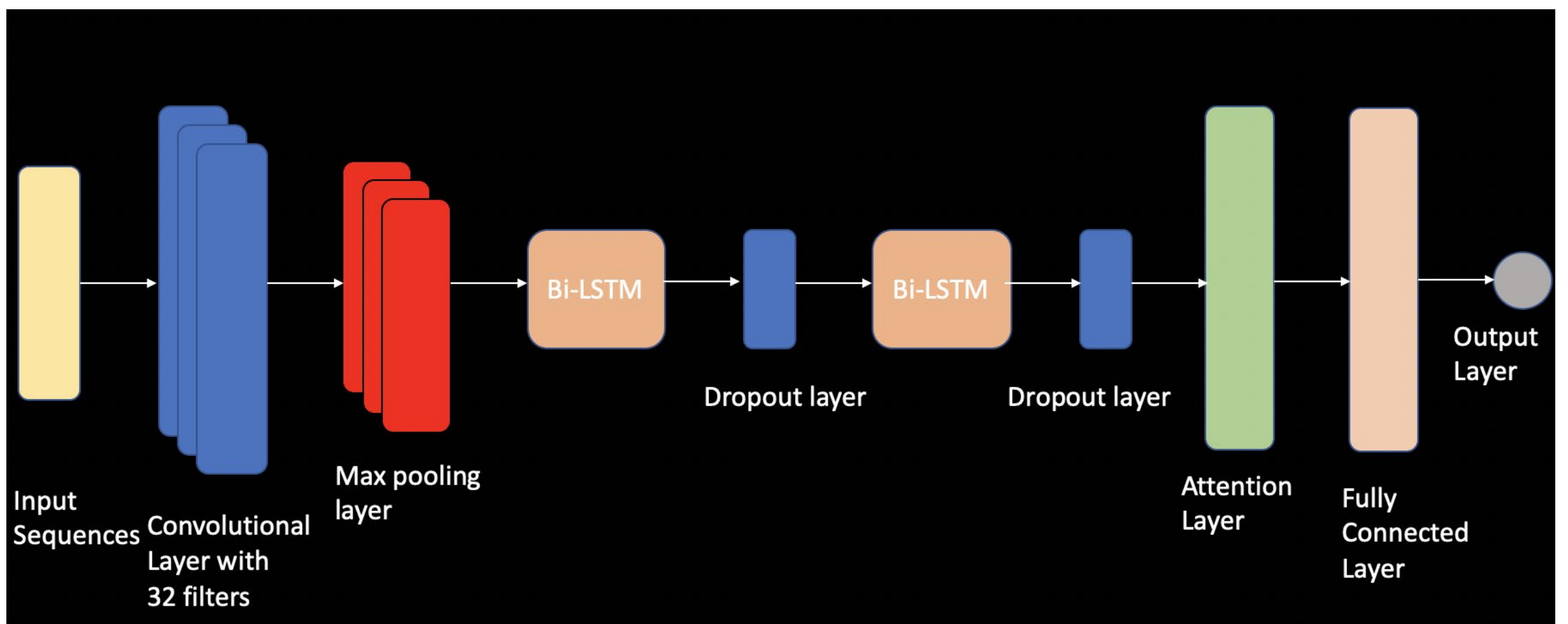


Pattern Recognition and Forecasting

From Multiple Financial Time Series Data and News

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Project Objectives:

This project aims to predict 3-day ahead stock prices from historical prices or tweets. Financial time series prediction can be very challenging as the data is non-stationary, chaotic, and affected by politics or various business events such as fluctuating exchange rates, and fuel prices. The project uses hybrid deep learning model of CNN and LSTM with Attention mechanism. The model is trained using single stock dataset and it is able to predict the other stocks as well without the need to re-train with individual datasets.

Experimented with Four different models:

1. LSTM+Attention
2. CNN-LSTM+Attention
3. Prediction of price change degree of open/close prices with CNN-LSTM+Attention
4. Prediction of price change degree of open/close prices with CNN-LSTM+Attention, using both historical prices & Sentiment

