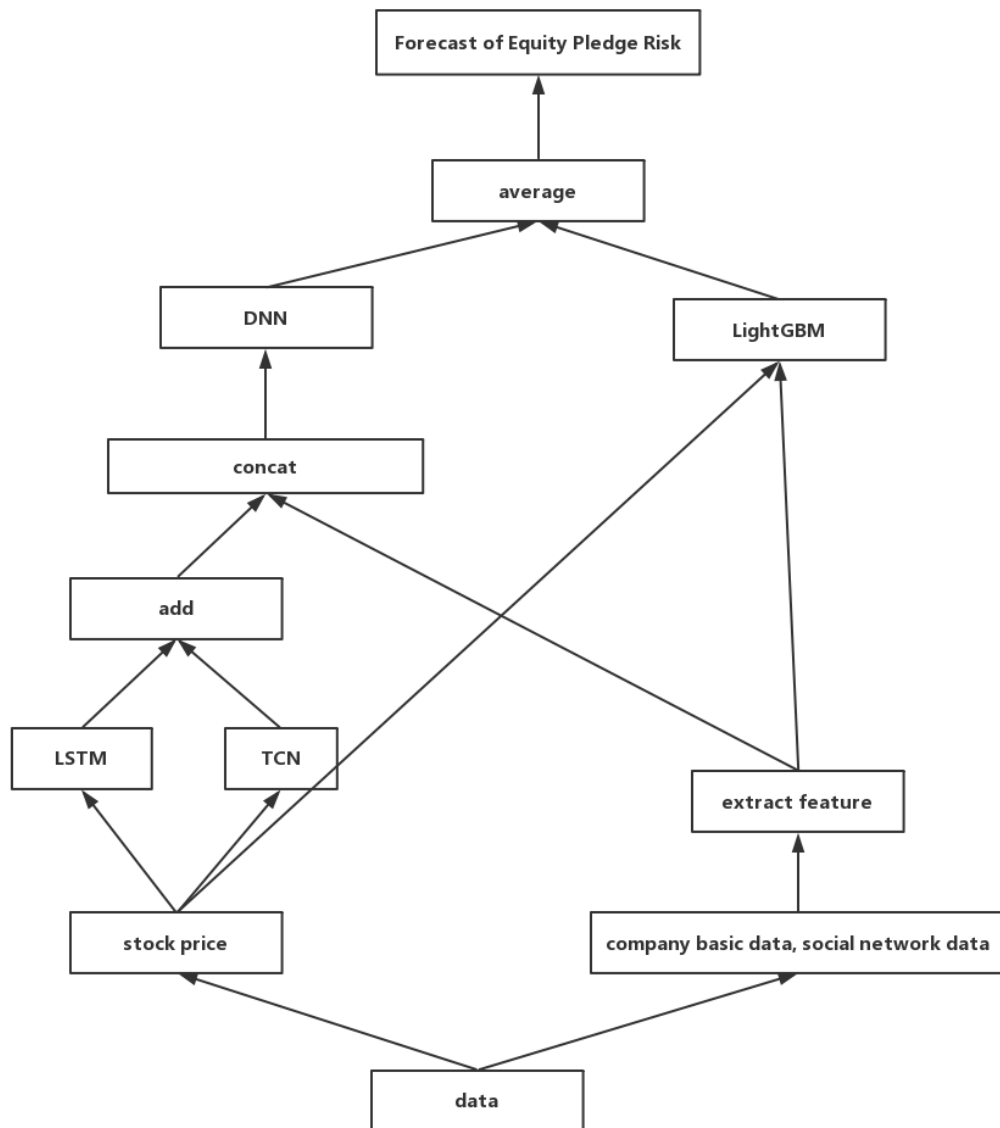


# Model Architecture

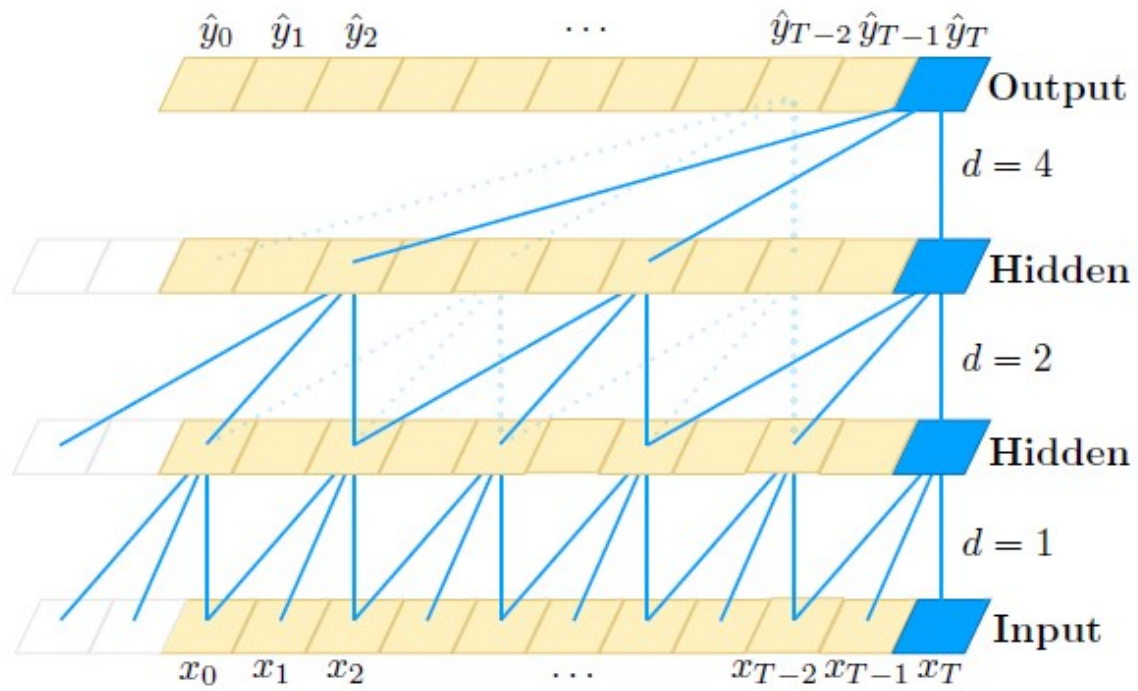
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## Model Introduction

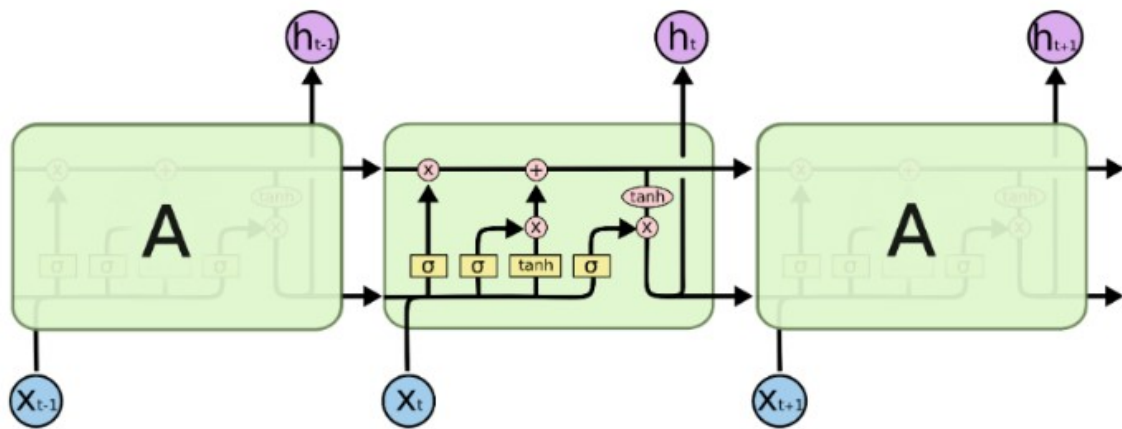
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### 1、TCN (Temporal Convolutional Network)



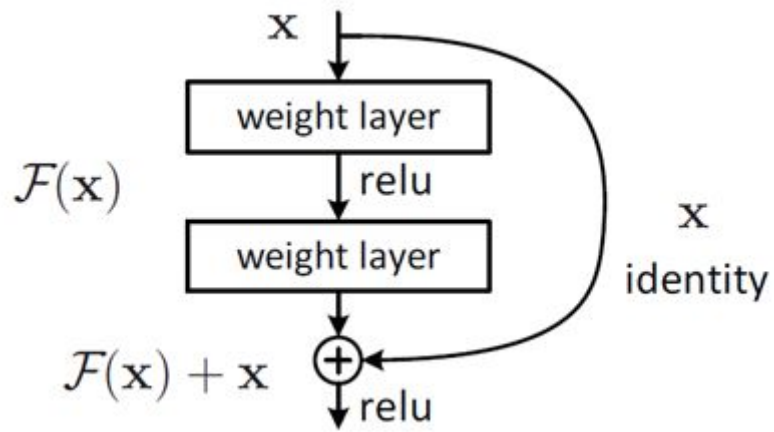
- Flexible receptive field size
- Convolution layers increase causal correlation
- Convolutions can be done in parallel, thus improve efficiency

## 2、LSTM (Long Short-Term Memory)



- Avoiding the problem of gradient disappearing in RNN
- Extracting dependencies between time series data

## 3、DNN



- using residual neural network
- mitigating the problem of gradient disappearing when the network is too deep

## 4、LightGBM

- based on Gradient Boosting Decision Tree (GBDT)
- LightGBM uses histogram-based algorithms. This speeds up training and reduces memory usage
- Leaf-wise tree growth algorithms with max depth limitation, which avoiding over-fit

## Evaluation

	roc-auc	accuracy	recall	f1-score
DNN	0.8806	0.8364	0.6429	0.6832
LightGBM	0.9099	0.8621	0.6977	0.7322
Average	0.9086	8666	0.7153	0.7347