**Data Acquisition**

**Price Prediction**

**Sentiment Classification**

News Articles Storage

Stock Price Data

External News Sources

External Stock Price Data

**Feature Generation and Selection**

Chi-square feature selection

Generate vector space model with TF-IDF as weights

SVM-based classifier

**Pre-processing**

Normalisation

Feature generation from stock price data and svm-classification of news

HMM-SVM-based classifier

Down Price Direction

Up Price Direction

News Classification into positive, Neutral or Negative

**Pre-processing**

Stop-word removal

Stemming

Tokenisation (into unigrams, bigrams)