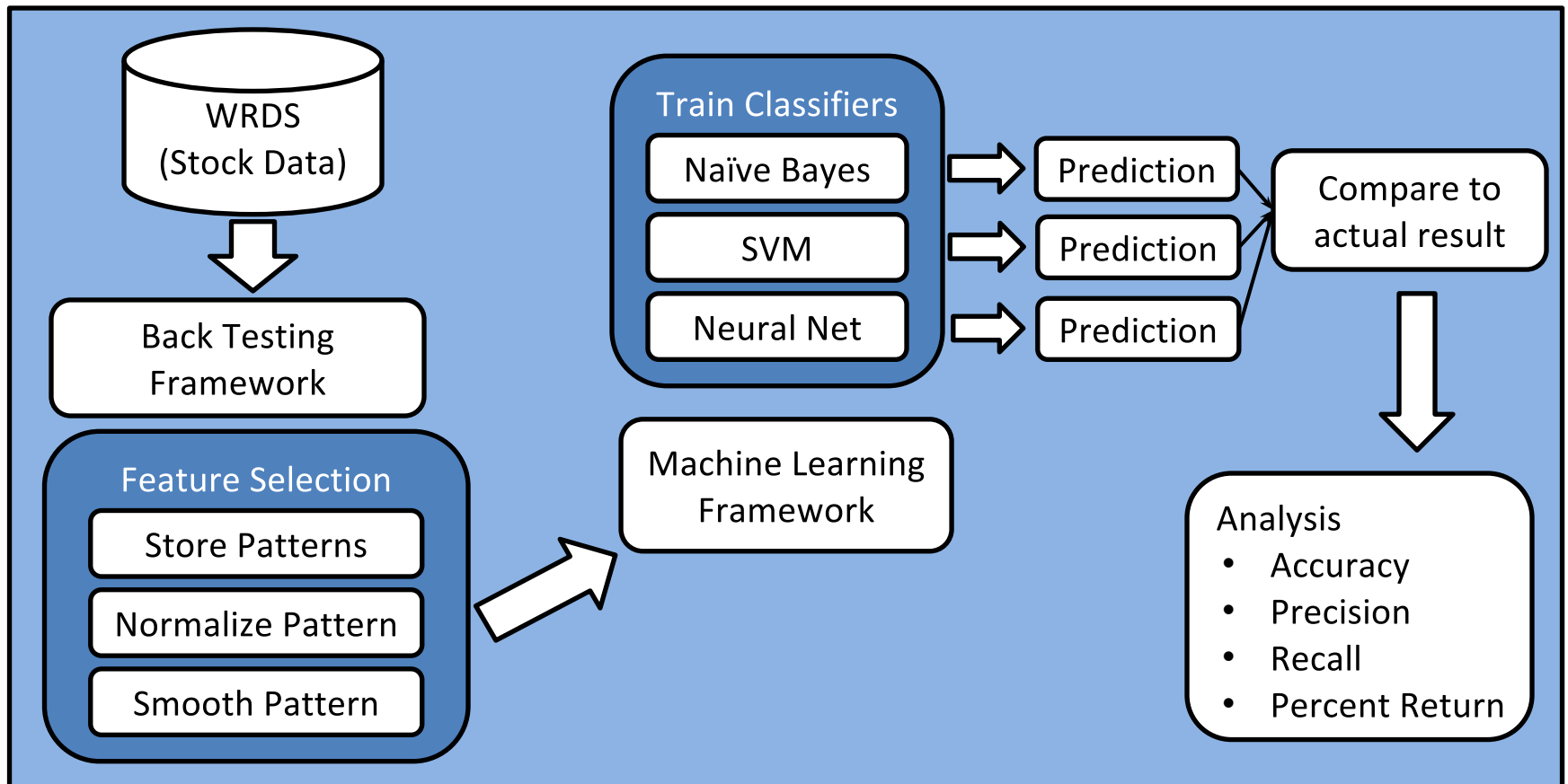


The Problem (Stock Sentiment Prediction)

Our goal is to make predictions on when it is a good time to buy, sell, or hold a stock based on its historical price. This entails finding past price patterns in the stock market similar to current patterns where we can make a comparison and try to predict what to do for the current day. Our assumption is that past buying patterns are reflected in the price history of a stock and allow us to make successful future predictions.

Our Approach



Our Results

Our average percent return for both Neural Net and SVM more than doubled the Dow30's average return over the same time frame.

Top 10 SVM Results

Ticker	Acc.	Precision	Recall	% Return
MCD	90.00	81.00	90.55	48.99
XOM	85.00	72.25	86.48	48.27
KO	82.00	67.24	82.96	42.51
GE	74.00	54.76	77.43	41.33
MMM	79.00	62.41	79.82	40.95
PFE	76.00	57.76	77.56	40.48
IBM	72.00	51.84	74.52	38.91
VZ	62.00	38.44	65.66	38.44
JNJ	78.00	60.84	78.24	38.08
MRK	84.00	70.56	84.88	37.72

Top 10 Neural Net Results

Ticker	Accuracy	Precision	Recall	% Return
MCD	90.00	81.00	90.43	48.99
MMM	79.00	62.41	80.12	48.95
XOM	85.00	72.25	85.23	48.27
KO	82.00	67.24	83.45	42.50
GE	74.00	54.76	76.72	41.33
PFE	76.00	57.76	77.82	40.48
IBM	72.00	51.84	73.15	38.91
VZ	62.00	38.44	64.26	38.44
JNJ	78.00	60.84	78.98	38.09
MRK	84.00	70.56	84.84	37.72

*Statistics are from last 100 trading days of 2013

Our results for naïve Bayes were not statistically significant for any stock in the Dow30 even after tuning the parameters, so we have decided not to display them on this slide.