

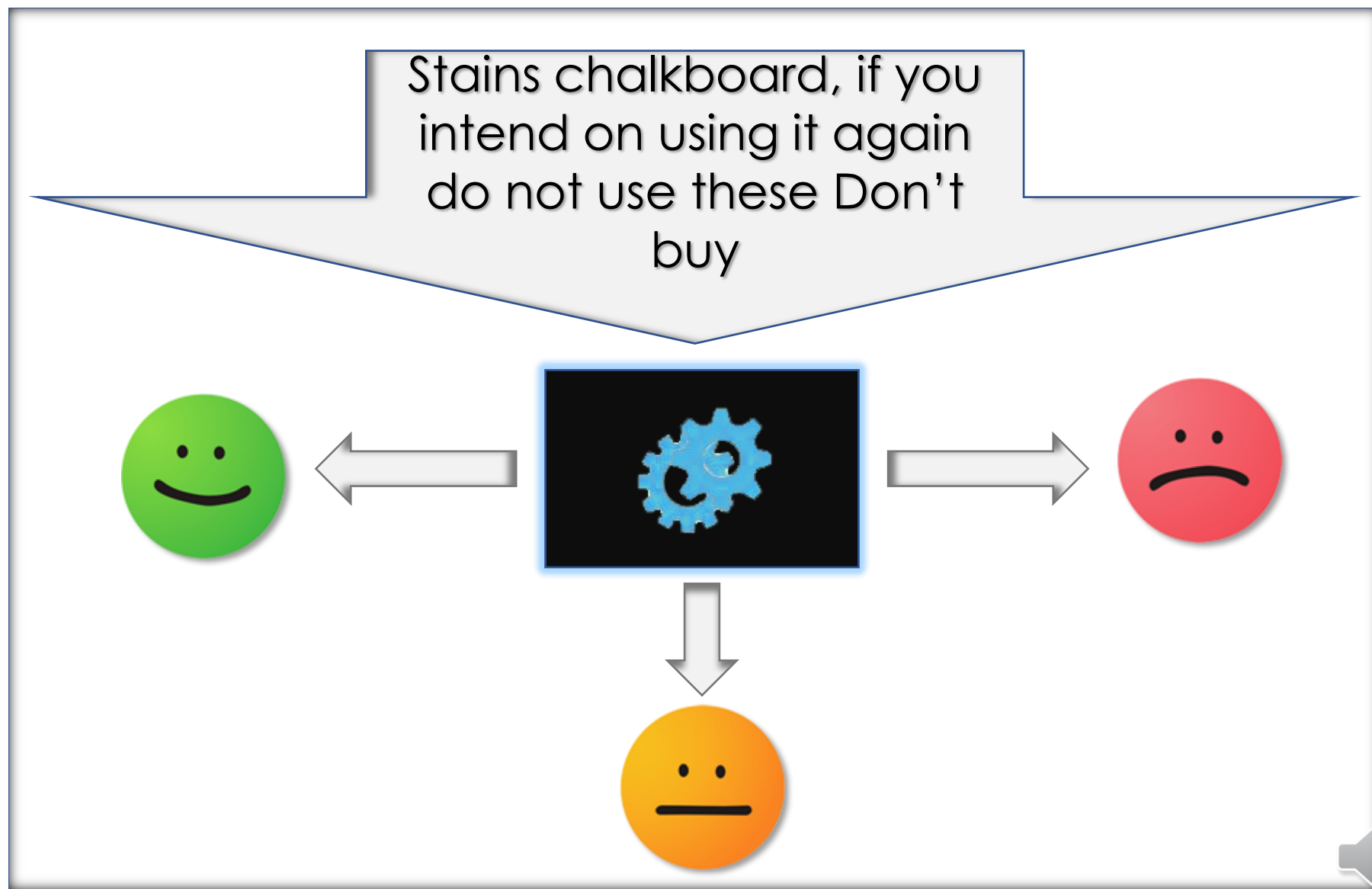


# Sentiment Analysis with Machine Learning

By Collin Loo



# What Is Sentiment Analysis



# Objectives

## Business Case

- ❖ Classify reviews to identify product weaknesses

## Approach

Develop two machine learning models:

- ❖ Support-Vector Machine
- ❖ Neural Network



# Obtain Data

## Data Source

❖ <https://nijianmo.github.io/amazon/index.html>

## Model Data Summary



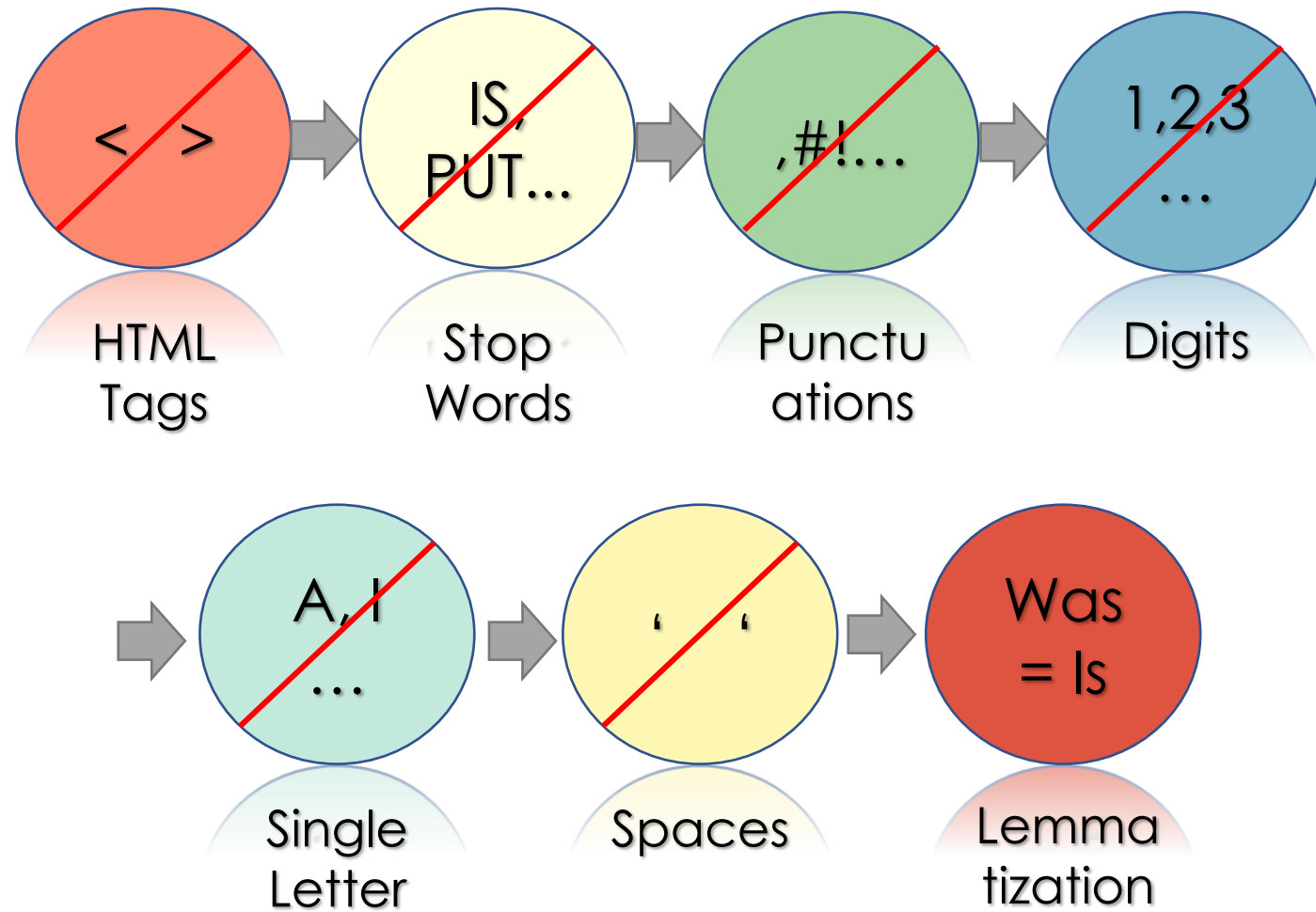


[illegible]

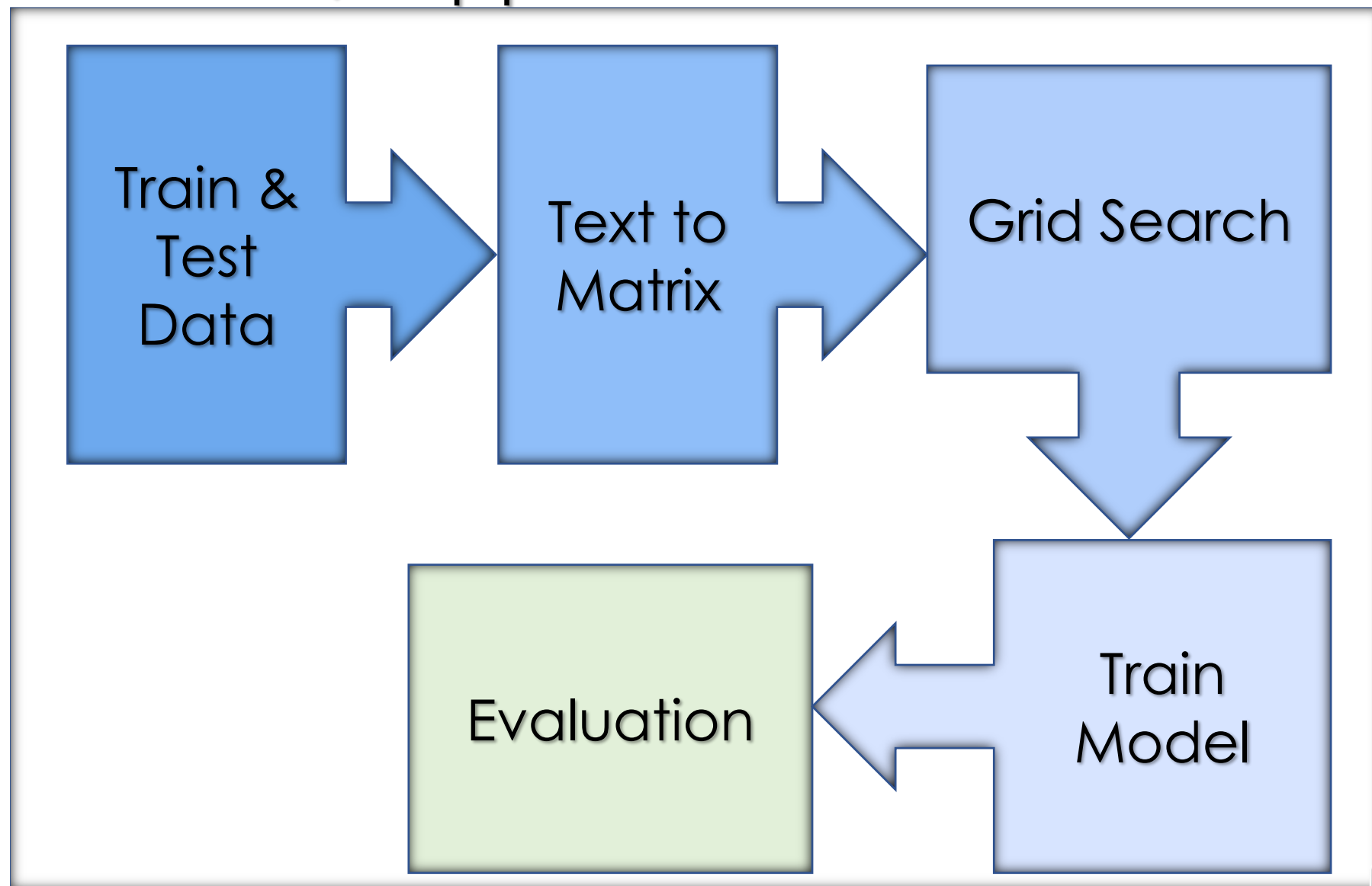
- ❖ Bigger font = more frequent words

[illegible]

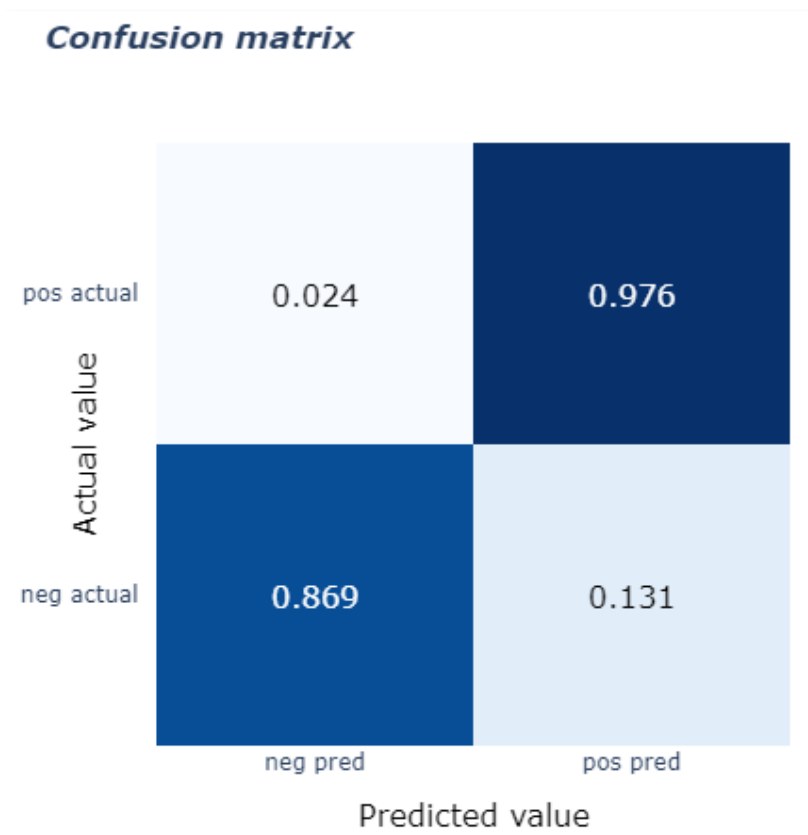
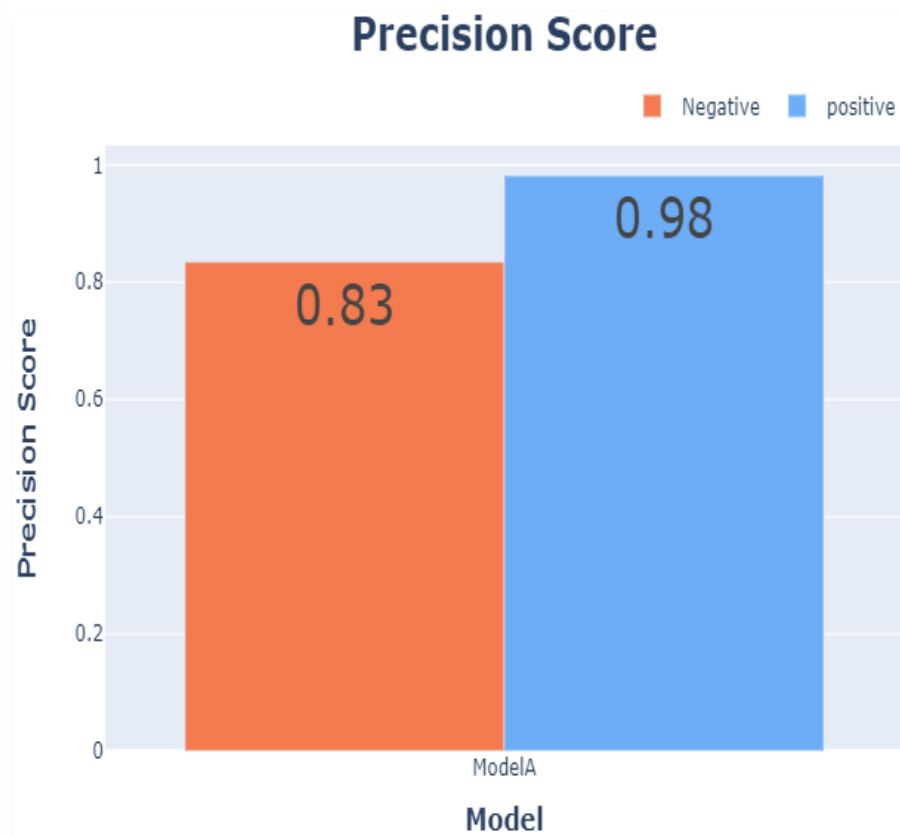
# Text Processing



# Model A, Support-Vector Machine

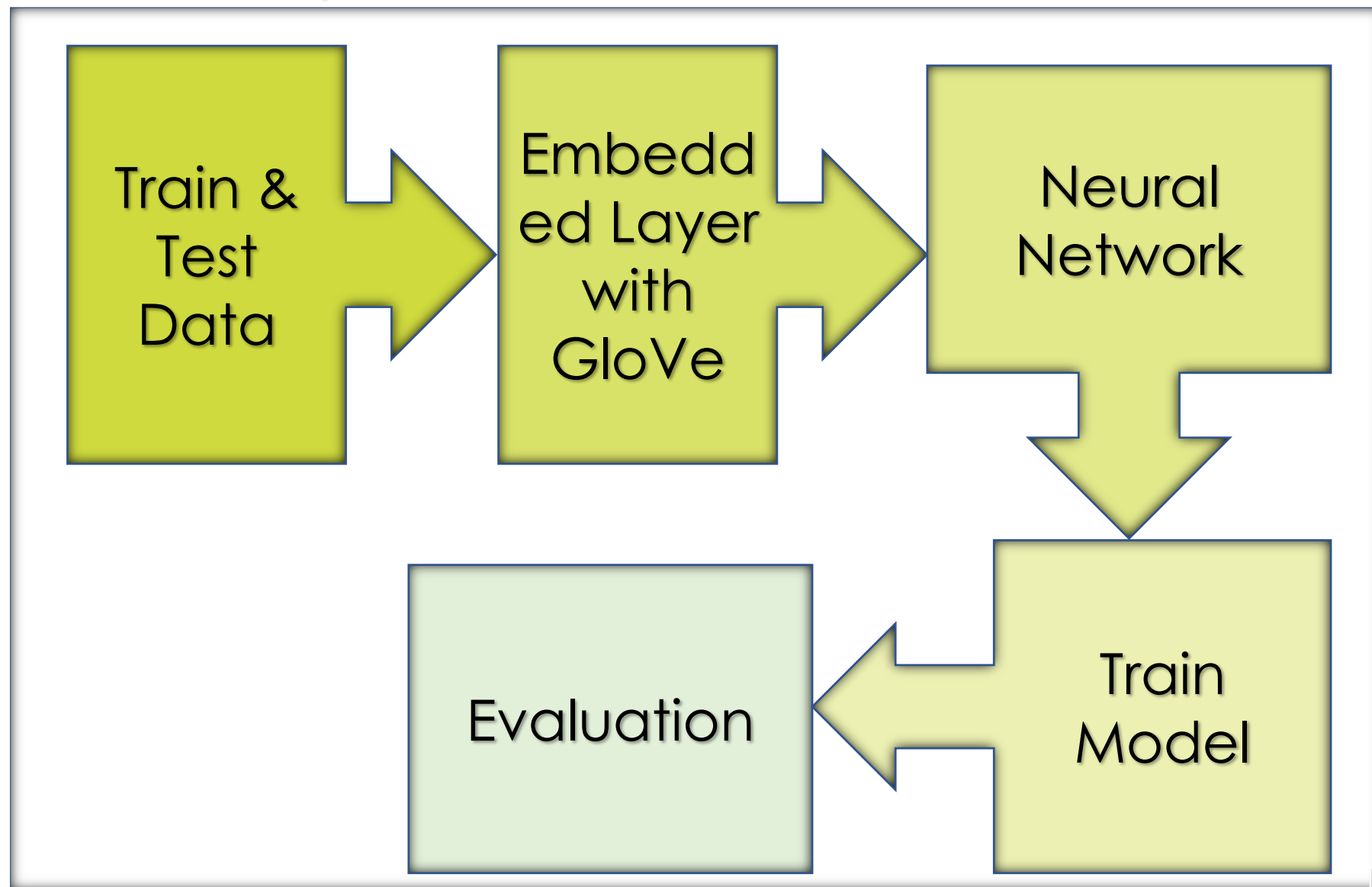


# Model A, Performance Results

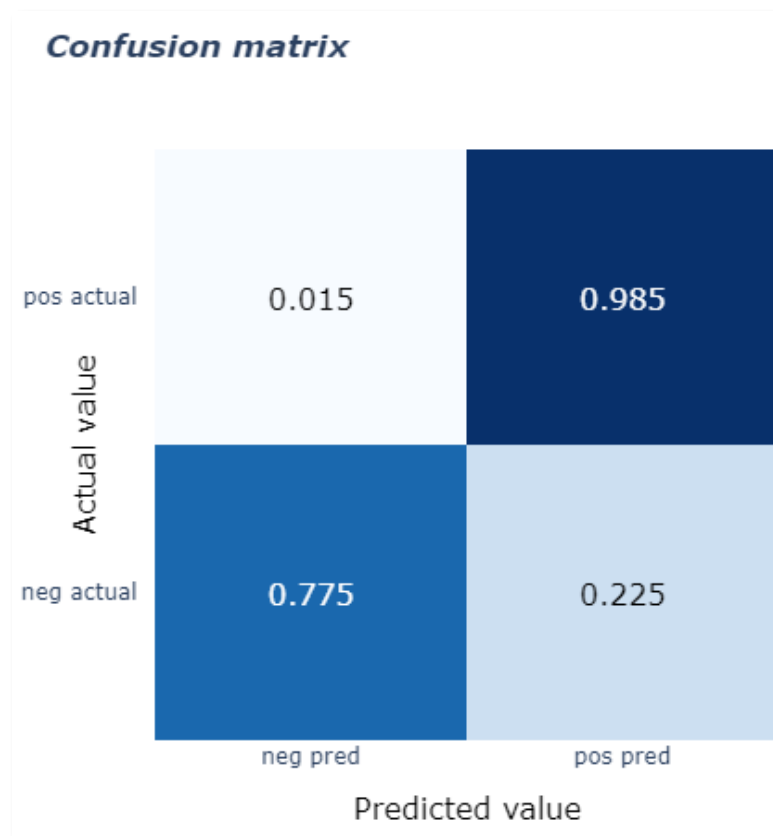
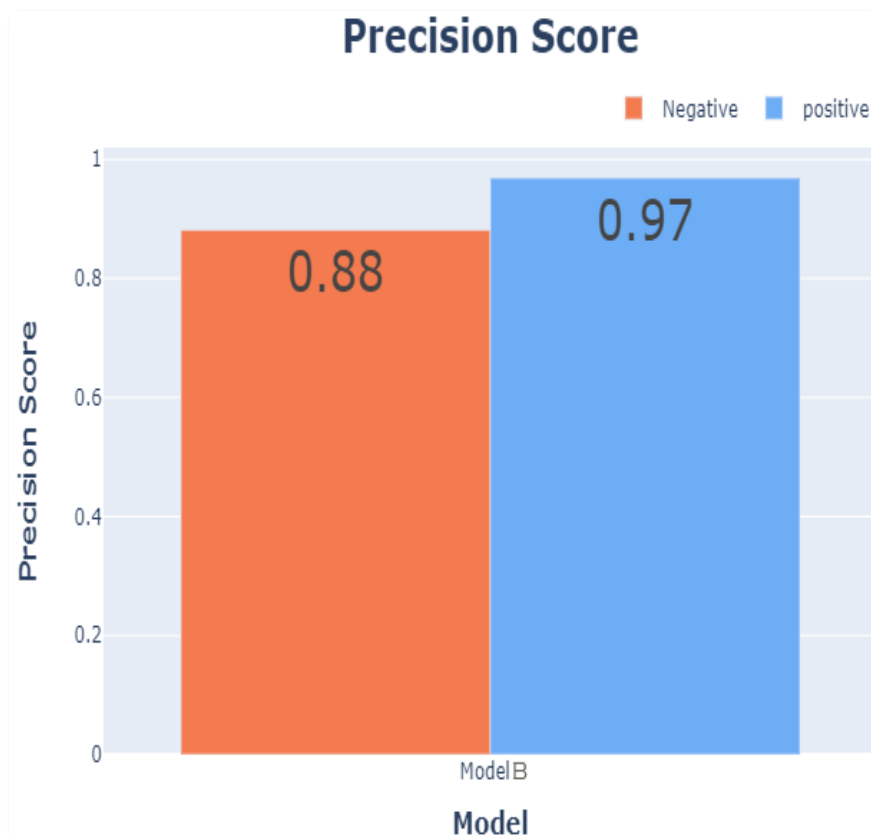




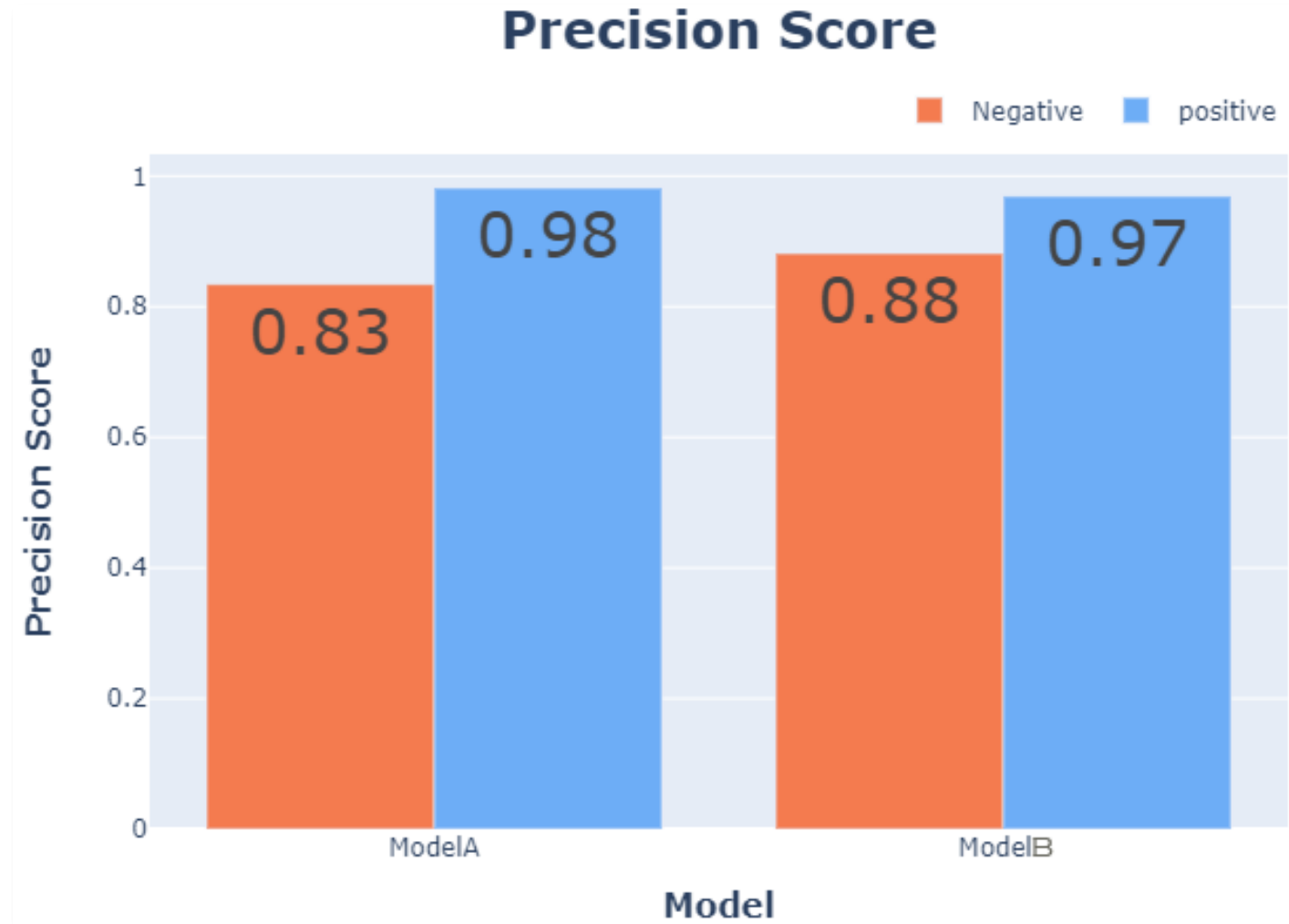
## Model B, Neural Network



# Model B, Performance Results



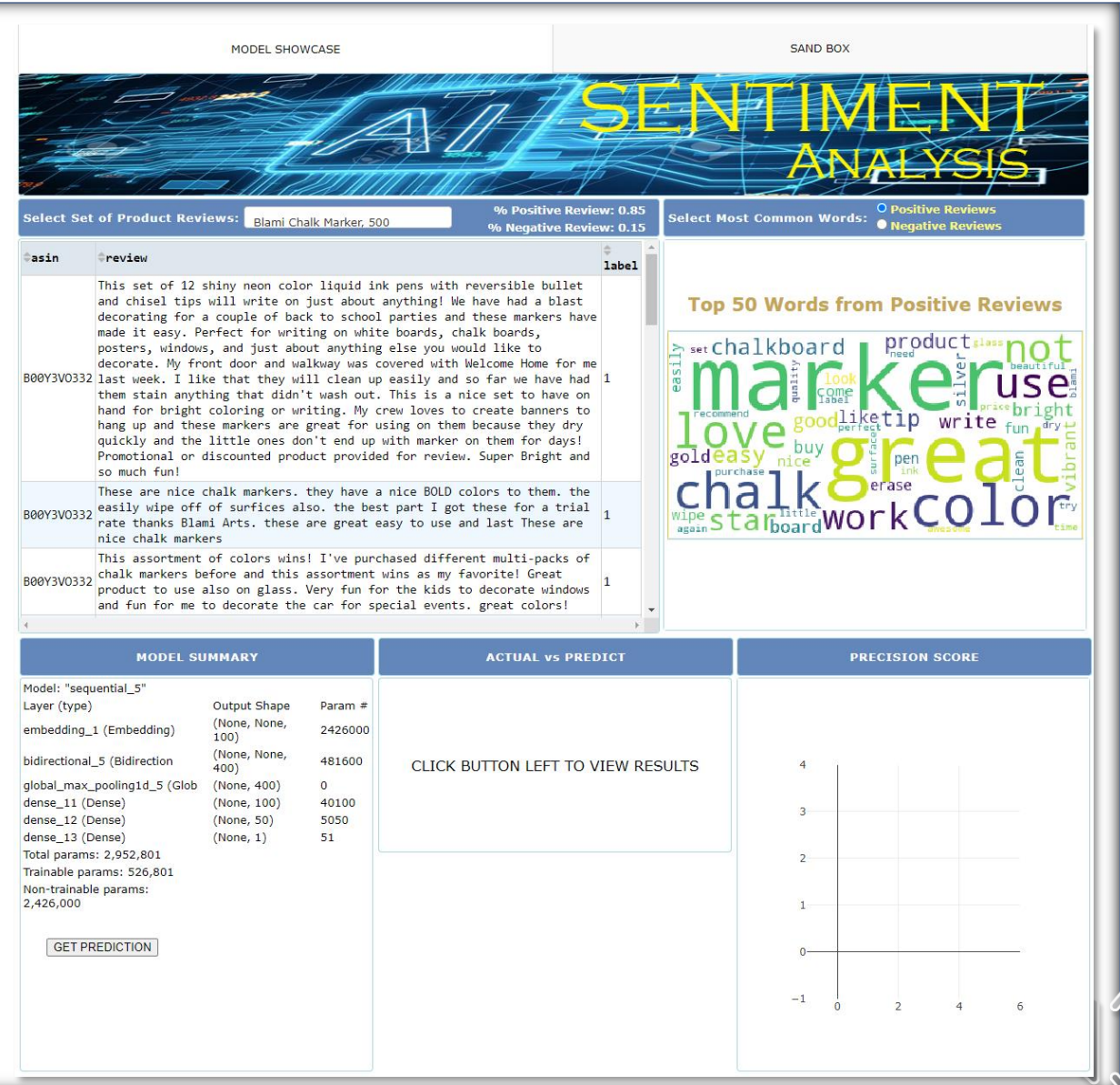
# Model Comparison





# Data, Word Cloud

# Data Prediction

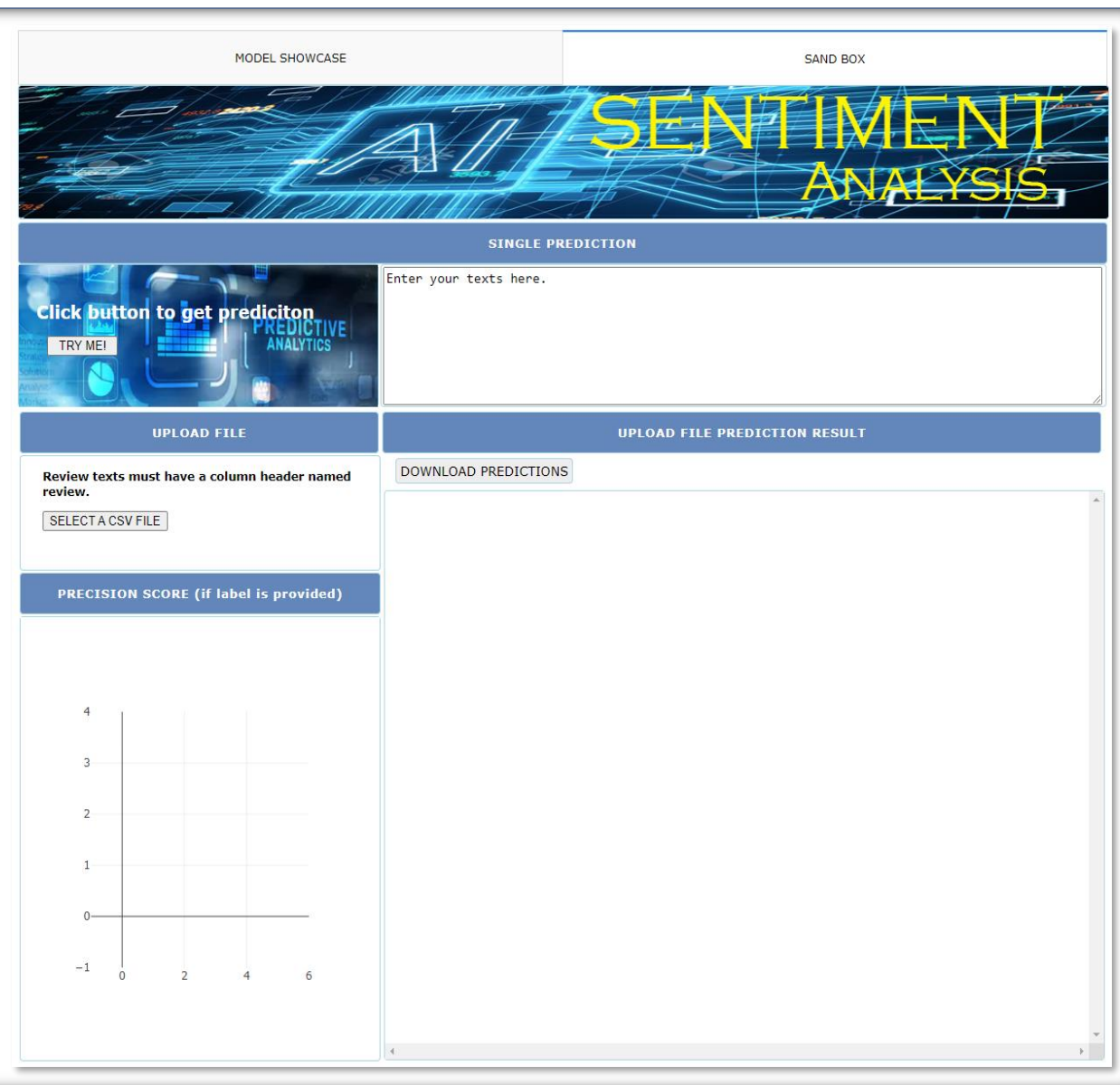




# Dash Application

Texts  
Prediction

Upload  
Download



# Recommendation



Customer  
Service



Market  
Research



Social  
Media  
Monitoring



Product  
Analytics



# Conclusion

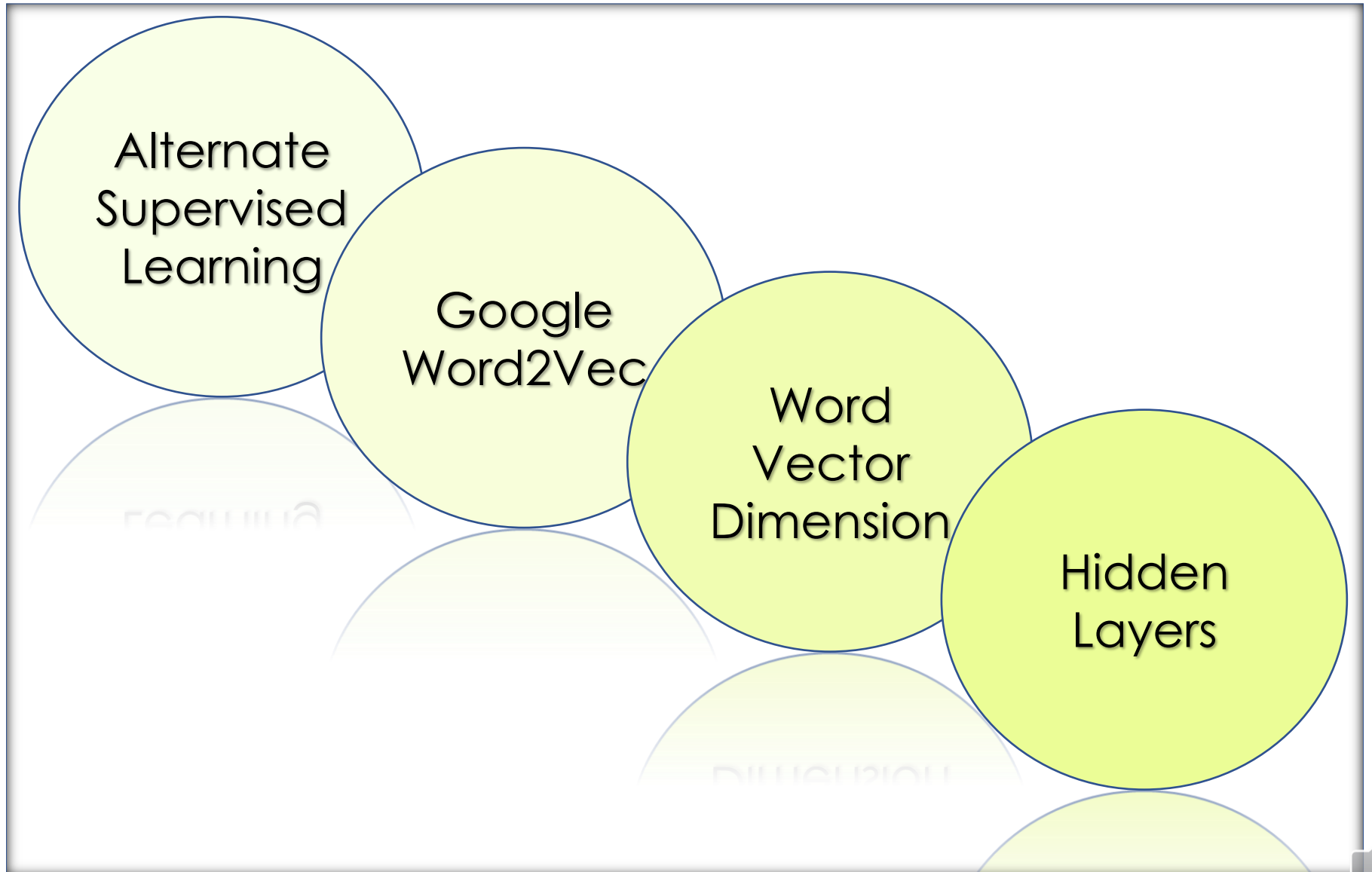
Short time  
to train

Simple  
Neural  
Network

81% to 90%  
Precision on  
new data



# Future Work





# Thank You

## Change things

At Flatiron School you learn how the future is being built, so you can change anything, starting with a new career in code, data science, or cybersecurity

Collin Loo 

[collinloo@yahoo.com](mailto:collinloo@yahoo.com) 

[www.linkedin.com/in/collin-loo](http://www.linkedin.com/in/collin-loo) 

