Sentiment Analysis For the Wine Connoisseur

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The Task at Hand

- Process the text of wine reviews to predict their score
- The problem - All scores are between 80-100 - all scores sound “good”

“Exaggeration is truth that has lost it’s temper.” - Khalil Gibran

- Personal taste - terroir - reviews are subjective - sponsorships

Methodology

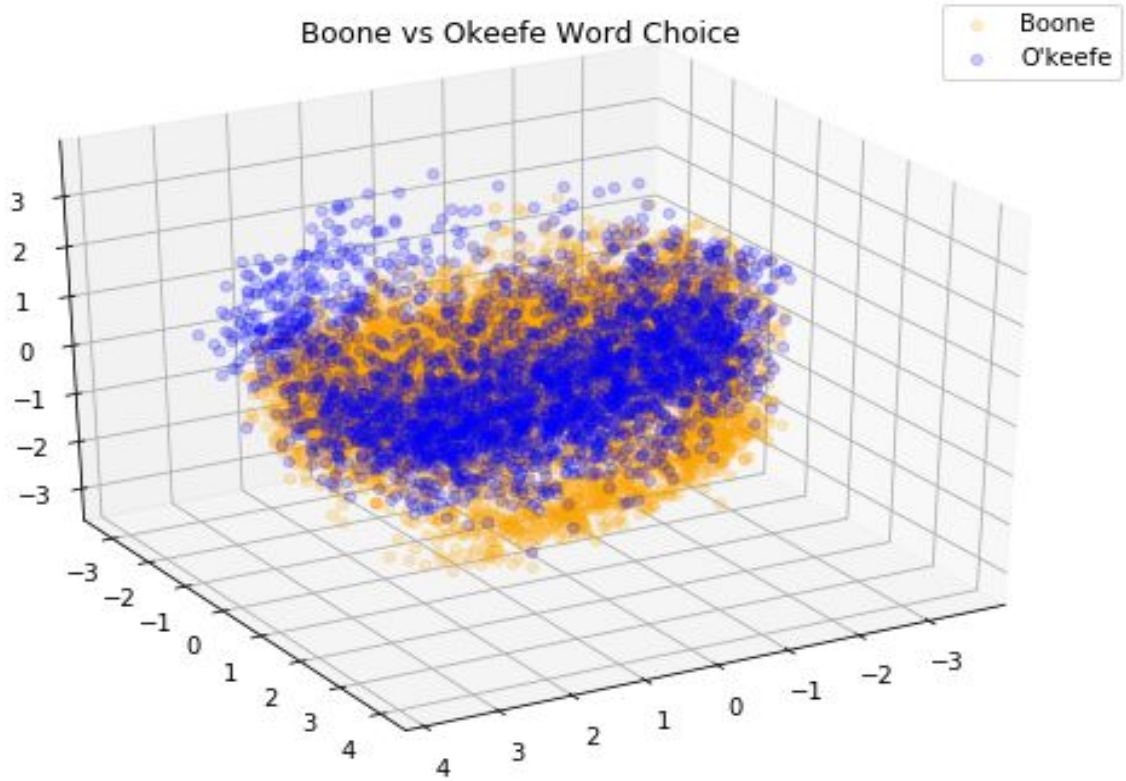
1 = The good scores ʕ•ᴥ•ʔ The bad scores = 0

Limited by only using the reviews of wines, will a deep learning neural network or a word2vec ensemble methods be better at predicting wine reviews?

Dataset - vectorized

All axes are representative of directional space.

Points close to each other should have related meaning.



Flavor notes

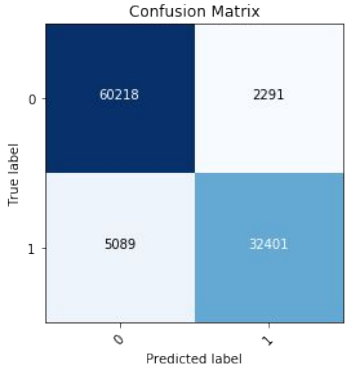
```
[23]: w2v_model.wv.most_similar('coffee')
```

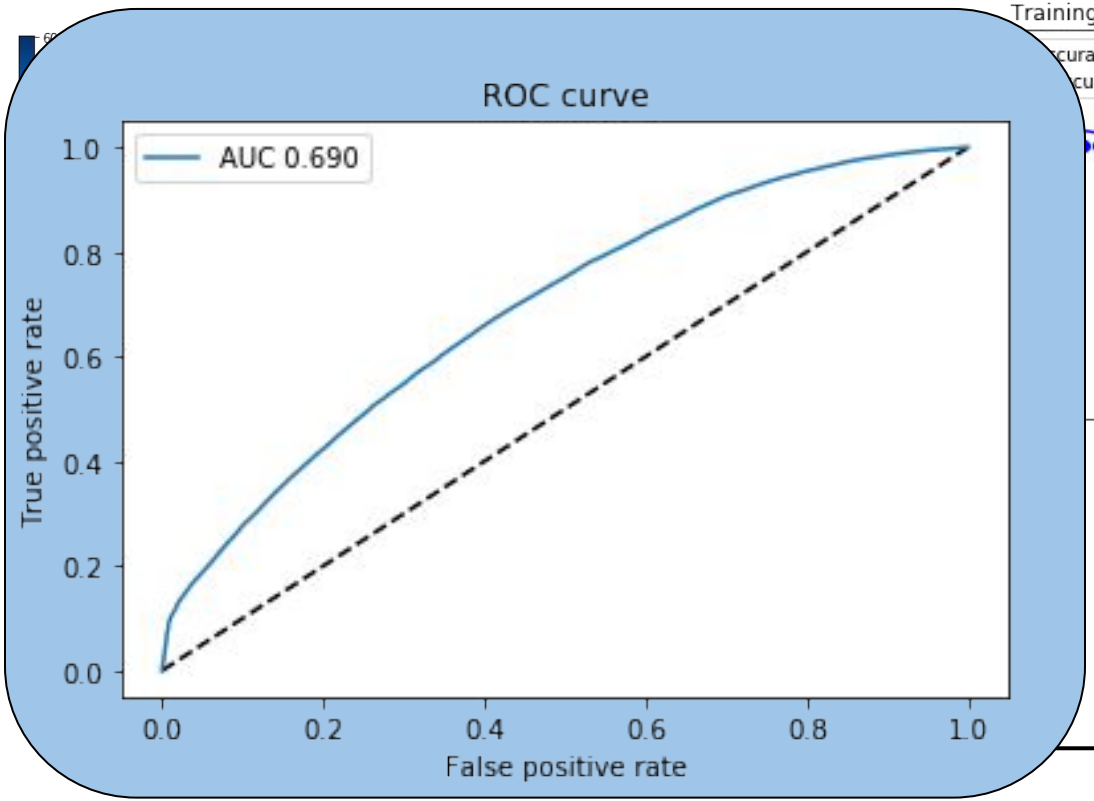
```
[23]: [('espresso', 0.8969775438308716),
       ('carob', 0.7564544677734375),
       ('mocha', 0.7402285933494568),
       ('licorice', 0.7393960952758789),
       ('cocoa', 0.7026122212409973),
       ('char', 0.6930364966392517),
       ('cassis', 0.692969799041748),
       ('molasses', 0.6914410591125488),
       ('coconut', 0.673872709274292),
       ('woodspice', 0.6711657047271729)]
```

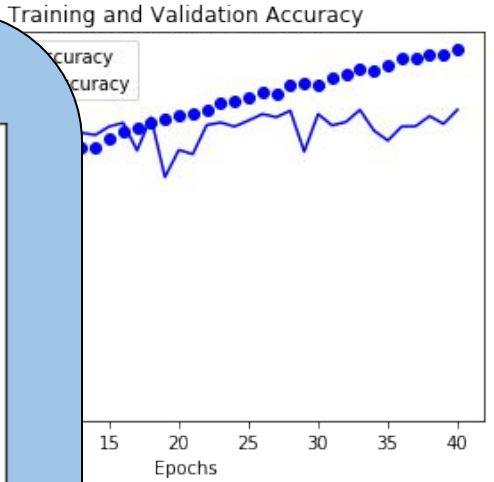
```
[24]: w2v_model.wv.most_similar('brimstone')
```

```
[24]: [('peat', 0.7747483253479004),
       ('flint', 0.7677335739135742),
       ('candle', 0.7435697913169861),
       ('broom', 0.7328553199768066),
       ('bee', 0.7281134128570557),
       ('chamomile', 0.7206580638885498),
       ('wax', 0.719684898853302),
       ('beeswax', 0.7003276944160461),
       ('granite', 0.6992579102516174),
       ('pollen', 0.6967644691467285)]
```

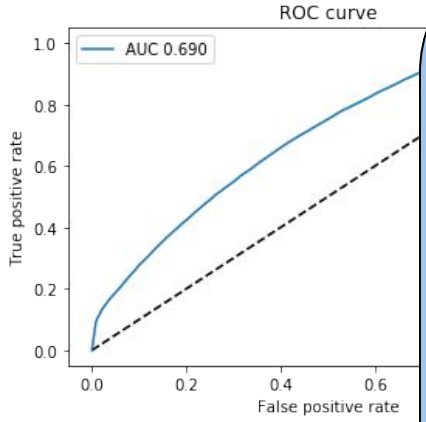
Outcome - Random Forest Model

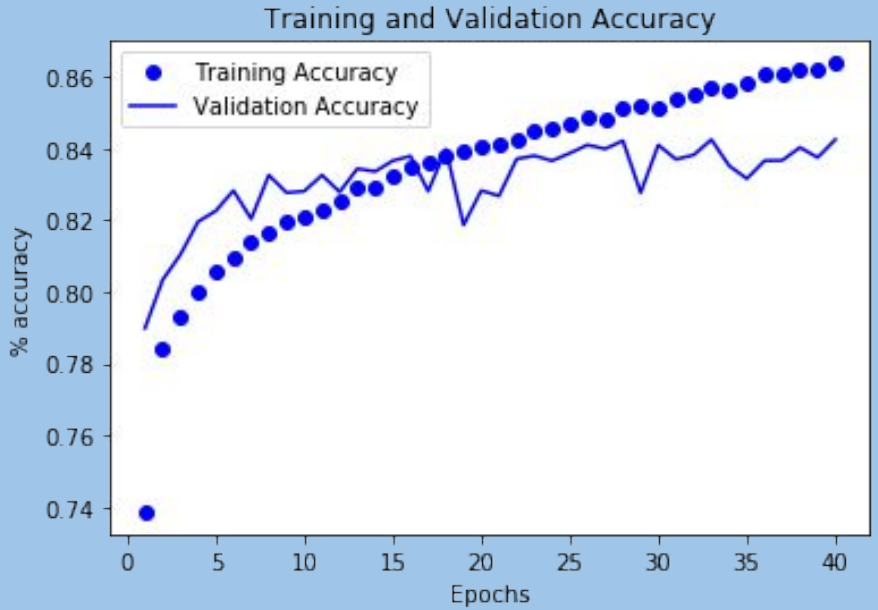


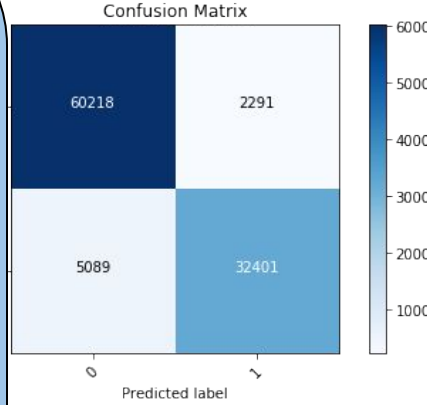




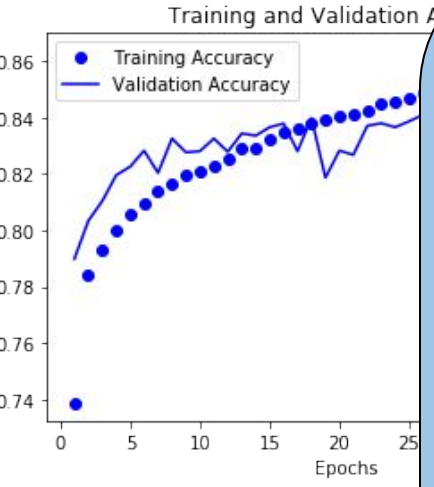
Outcome - NN Iterative Feedback

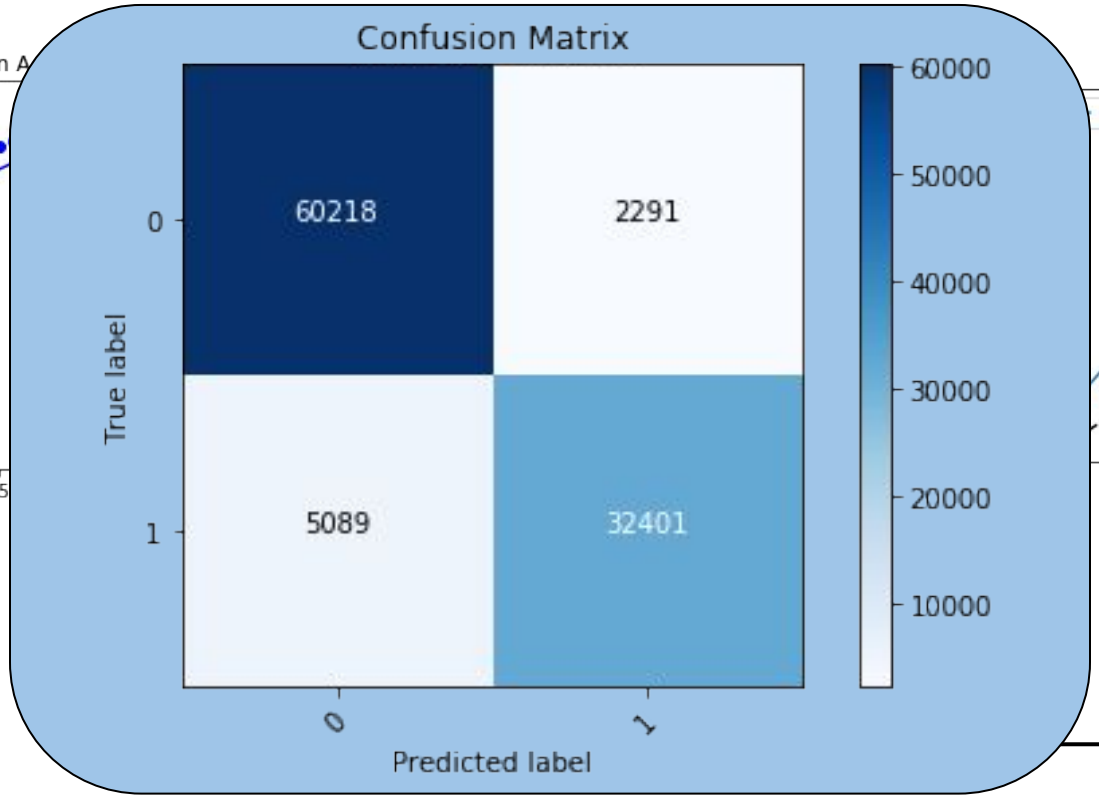


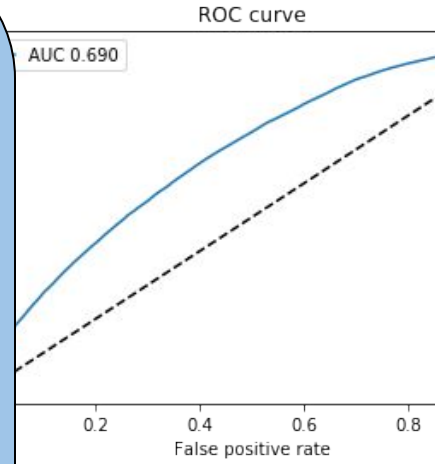




Outcome - NN vs Test Data







Suggestions for Further Development

Create data by giving each wine a new name based on their taster description.

Build a live recommender system that pairs likely flavors and suggests wines that fit the search criteria.

Apendix

Linkedin

Github Repo

Blog