FASHION TREND FORECASTING

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The Idea

- Forecasting fashion trends based on consumer fashion product reviews.
- Focused aspect: Product ID
- Indicator: Review of each Product ID obtained from consumers
- Number of data in the dataset: 19652
- Amount of data used: 5000

Methods

01

Sentiment Analysis

Processing review sentences using Sentiment Analysis technique, then predicting the trending of each product.

02

Multi Label Classifier

Using **OneVsRest** Classifier

03

Feature Engineering

Calculating how much influence the consumer review data has on the rating value of each product (Rating Factor). Rating Factor will help us in predicting the trending or not trending of a product.

SUCCESS / TRENDING FACTORS ...

$$Rating\ Factor = \frac{1 - e^{\left(\frac{Reviews\ proportion * Average\ rating}{Std\ deviation\ of\ rating}\right)}}{1 + e^{\left(\frac{Reviews\ proportion * Average\ rating}{Std\ deviation\ of\ rating}\right)}}$$

$$Rating\ Strength = (Rating\ Factor)^2$$

< cutoff (0.00037)

> cutoff (0.00037)

NOT TRENDING

TRENDING

Datasets and Features

- **Dataset collected from Kaggle:** https://www.kaggle.com/nicapotato/womens-ecommerce-clothing-reviews

- **This dataset consists of:**
  - ★ **Clothing ID (unique variable)**
  - ★ **Review Text (user review of the clothes)**
  - ★ **Rating (user review with numbers; range from 1 to 5)**
  - ★ **Item Success (rating calculation result)**

Evaluation Report

```
clf_cv = ovr(SVC()).fit(xcv_train, y_train)
cv_pred = clf_cv.predict(xcv_test)
```

```
print(f"SVM Classifier using CountVectorizer(): {accuracy_score(y_test, cv_pred)}")
```

```
SVM Classifier using CountVectorizer(): 0.634
```

Rating Classification

```
print('Accuracy Score:', np.sqrt(metrics.accuracy_score(yf, xf)))
```

```
Accuracy Score: 0.9033271832508971
```

Trending/Not Trending Prediction

Papers

[1] Vinay Arun, “Predict Product Success using NLP models - Towards Data Science,” *Medium*, May 08, 2018. https://towardsdatascience.com/predict-product-success-using-nlp-models-b3e87295d97

[2] Github: https://github.com/vinayarun/BUSINESS-USE-CASE-FOR-NLP


Thank
You!