International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 06 Issue: 05 | May - 2022 Impact Factor: 7.185 ISSN: 2582-3930

CLOTHING SALE ANALYSIS USING RNN

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Abstract - Sales forecasting is crucial for many retail operations. It is especially critical for the fashion retailing service industry in which product demand is very volatile and product's life cycle is short. This project conducts a comprehensive literature review and selects a set of papers in the literature on fashion retail sales forecasting. social media platform, based on the main trends with Natural Language Processing and with Sentiment Classification using Recurrent Neural Network. Where we analyse, compile, visualize statistics, classification and classified them positive, negative and neutral sentiment scores. Traditionally, fashion sales forecasting is accomplished by the statistical methods. In fact, a lot of statistical methods have been used for sales forecasting, We have also compared the performance of the proposed algorithm on certain parameters with Recurrent Neural Network (RNN) with LSTM , then We experimented with different retinal features as input to RNN for effective classification of product reviews.

Key Words: optics, photonics, light, lasers, templates, journals

1.INTRODUCTION *(Size 11, Times New roman)*

Forecasting demand for fashion retail is one of the most difficult forecasting problems in the industry, given fast changing consumer tastes, long design and production cycles, bulk manufacturing for cost efficiency, heavy competition on pricing, and increasing marketing costs. What retailers have is volumes of previous years' sales data and they use it to forecast future purchases using conventional techniques.Since multiple parameters in design interact non-linearly to define the look or appeal of an item in fashion, past sales data in itself is not instructive in predicting demand for future designs. In many fashion houses or retail brands, demand planning for the next is done by merchandisers based on their reading of the market, several visits of production and design houses, and their personal observations of what people buy. There is high variability in choices that different buyers recommend

cannibalization, price- wars between different articles fulfilling the same consumer need, etc cannot be foreseen.Such inefficiencies lead to significant mismatch in the supply and demand, thus resulting in loss of business opportunity for some items, and piles of unsold inventory . Other than business losses,unsold inventory also leads to considerable environmental damage due to overproduction as well as disposal of unsold inventory. Hence, accurate demand forecasting well into the future of 6-8 months is crucial for better environmental health and business health. In this paper, we apply deep learning and tree based machine learning algorithms to get point estimates in forecasting demand for items which were not present in the catalog earlier

2.Body of Paper

SCOPE:

A collection of emotion images we have. To train the machine to classify the types of emotions. This project contains four different emotions like Angry, Happy, Cry and Neutral. We train to teach the machine to achieve the accuracy and get the possible outcome.

Project Requirements:

Framework: Keras

1.Software Requirements:

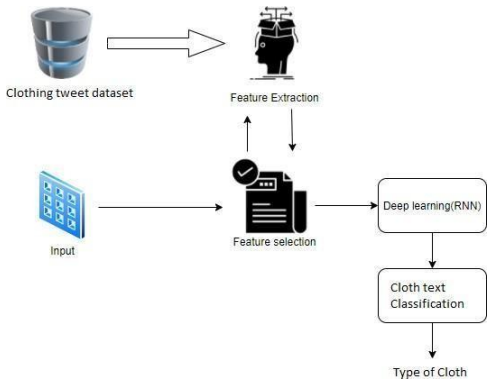
Operating System:Windows
Tool : Anaconda with Jupyter
NotebookLanguage : Python

2.Hardware Requirements:

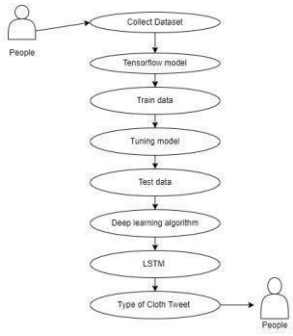
Processor: minimum i3 and above
Hard disk: minimum 300GB
RAM: minimum 4 GB

DESIGN ARCHITECTURE:

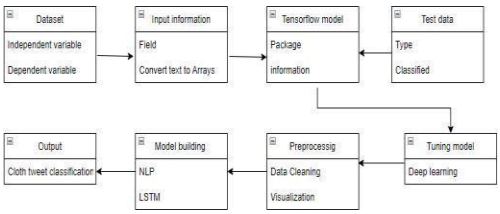
System Architecture:



USECASE DIAGRAM:



CLASS DIAGRAM:



Deep Learning RNN with LSTM get best accuracy result.

Recurrent Neural Network is a generalization of feed forward neural network that has an internal memory. RNN is recurrent in nature as it performs the same function for every input of data while the output of the current input depends on the past one computation. After producing the output, it is copied and sent back into the recurrent network. For making a decision, it considers the current input and the output that it has learned from the previous input. Unlike feed forward neural networks, RNNs can use their internal state (memory) to process sequences of inputs. This makes them applicable to tasks such as unsegmented, connected handwriting recognition or speech recognition. In other neural networks, all the inputs are independent of each other. But in RNN, all the inputs are related to each other. First, it takes the X(0) from the sequence of input and then it outputs h(0) which together with X(1) is the input for the next step. So, the h(0) and X(1) is the input for the next step. Similarly, h(1) from the next is the input with X(2) for the next step and so on. This way, it keeps remembering the context while training.

3.WORKING PRINCIPLE:

Exploratory Data Analysis

Cloth tweets dataset from different sources would be combined to form a generalized dataset, and then different deep learning algorithms would be applied to extract patterns and to obtain results with maximum accuracy.

Data Wrangling

In this section of the report will load in the data, check for cleanliness, and then trim and clean given dataset for analysis. Make sure that the document steps carefully and justify for cleaning decisions.

Data collection

The data set collected for predicting given data is split into Training set and Test set. Generally, 7:3 ratios are applied to split the Training set and Test set. The Data Model which was created using Deep learning algorithms are applied on the Training set and based on the test result accuracy, Test set prediction is done.

3.ADVANTAGES OF RNN:

RNN can model sequence of data so that each sample can be assumed to be dependent on previous ones Recurrent neural network are even used.

4. CONCLUSIONS

The analytical process started from data cleaning and processing, missing value, exploratory analysis and finally model building and evaluation. The Machine algorithms like Logistic regression are applied and the accuracy are compared with deep learning algorithm which is RNN(Recurrent Neural Network) with LSTM (Long Short Term Memory).The Deep learning algorithm performance is better than machine learning. The Tweets are classified as Dresses, Knits, Blouses, Sweaters, Pants based on the given new input tweets.

FUTURE SCOPE:

Future Improvement on the networks's accuracy and generalization can be achieved through the following practices. The first one is to use the whole dataset during the optimization. Using batch optimization is more suitable for larger datasets. Another technique is to evaluate foods one by one. This can lead to detect which category of foods are more difficult to classify. Finally, using a larger dataset for training seems beneficial. However, such a dataset might not exist nowadays. Using several datasets might be a solution, but a careful procedure to normalize them is required. Finally, using full dataset for training, pre- training on each food images, and using a larger dataset seem to have the possibility to improve the network's performance. Thus, they should be addressed in future research on this topic

REFERENCES

1) C.-H. Chiu, T.-M. Choi, and D. Li, "Price wall or war: the pricing strategies for retailers," IEEE Transactions on Systems, Man, and Cybernetics Part A, vol. 39, no. 2, pp. 331–343, 2009.
2) C.-H. Chiu and T.-M. Choi, "Optimal pricing and stocking decisions for newsvendor problem with value-at-risk consideration," IEEE Transactions on Systems, Man, and Cyb[ernetics Part A, vol. 40, no. 5, pp. 1116–1119,2010.
3) C. Frank, A. Garg, A. Raheja, and L. Sztandera, "Forecasting women's apparel sales using mathematical modeling," International Journal of Clothing Science and Technology, vol. 15, no. 2, pp. 107–125, 2003.
4) T. M. Choi, C. L. Hui and,Y. Yu, Eds., Intelligent Fashion Forecasting Systems: Models and Applications, Springer, New York, NY, USA, 2013.