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Artificial Intelligence
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Project Milestone

Abstract

For many people, flying can be a nightmare. Whether it be a fear of flying, a crying baby or delays, flying can easily be an unenjoyable experience. Whenever you ask someone about their flight most of the time they will find something to complain about. With the internet, everyone is able to vocalize their opinion on their own personal experience. Many people vocalize their opinions through social media. One of the most popular social media sites used today is Twitter. Using the information that comes from how users react to their airline flights on social media, a model could be generated that recommends airlines to individuals. Providing the user what to generally expect from each different airline would help them make their decision. Then based on what the user may want from their flight, a recommendation could be made as to which airline would be best suited for them to fly with. The purpose of the application is to make their travel and travel planning process easier.

Introduction

On Kaggle, there is a data set of Tweets regarding Airline Sentiment. These tweets are organized in a number of ways, such as positive, negative, or airline company. The type of project I am proposing is an application project. This project would use the 2015 Twitter Airline Sentiment dataset. With this dataset I could create a recommendation application. The dataset also contains what the user tweeted about, whether it be the service, wait time, etc. The user

could choose what attributes they care or don't care about during a flight. This would provide me with the weights. From there I could provide recommendations on what flight company they should take and which one they avoid. I could provide some reasons as to why which company was recommended versus not recommended. The user would be free to alter what they want from the airline company and get recommendations. Using neural networks, and possibly deep learning, the best airline company for that user will be chosen. This will make our user more confident in choosing an airline company for flying.

Background

Looking through what other users have done with this dataset has been interesting. Most of the other users seem to only have analyzed the data and provided visualizations of the data. There are a couple standout individual submissions of this. However, it doesn't look like anyone else has tried to build and application with this dataset. Data visualization and analysis is nice but at the end of the data it goes over the head, or is too dry for many people. This is why I want to create a simple application for the dataset that will be user-friendly. The other's work will certainly be useful to use as a reference as I experiment and move forward.

Methodology

The method I intend to use will be the Multilayer Perceptron. I would like to potentially use deep learning but I may lack the computing resources for that. As of right now the multilayer perceptron can take a long amount of time to work in my own environment,

Experiments

I have not begun experiments yet with this specific dataset yet. However, I intend to use k-fold cross validation for testing. Most likely the k will end up being 10. From there I will be able to alter the neuron number, number of layers and eta.