GENE 191 Video Script

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Intro:

Machine learning has been a hot topic in the news during recent years. The recent development of new technologies have made the possibilities associated with machine learning very exciting. It is a part of so many technologies that we interact with in our daily lives. From social media to online shopping to big data collection, it is easy to see that machine learning is being integrated into our daily lives and will only become more important and more useful as time goes on. However, only people who are working and study on computer science or a related field can learn machine learning and use it. Machine learning shouldn’t be limited to such a select group of people. Machine learning should be made available to everyone in an easy-to-use format.

In response to this, we have developed a web application with machine learning algorithms. You can easily try it by yourself as we will do shortly. The main purpose of this website is to provide the public an easy access to machine learning and data optimization. A secondary purpose is to introduce more people into machine learning and to give them an idea of what exactly machine learning really means.

Instructions:

The application itself is very easy to use. First of all, you need to have some training data. The more data you have, the more accurate the prediction you can get.Essentially how it works is you enter the data for a specified number of features and the result of that combination. You do this for however many examples you have. Each data set can have many features and must have a result. Usually the number of features should be less than the number of examples so that the algorithm can build a good model. The more examples the algorithm has the better it will learn so the model’s accuracy will improve as time goes on.

Example:

Now, let’s see an example of using this application to predict the price of a house.

The first web page can help you to create a table so that you can input the data you have. It asks for the number of features and the number of examples that will be inputted.

For example, we have some data of your neighbours’ houses. (a picture of the data)

Training data:

Size # of bedrooms # of years price

2104 5 45 460

1416 3 40 232

1534 3 30 315

850 2 36 178

1300 4 50 220q

So as you can see, we have 5 examples and 3 features for each house. The last one, which is the price, is the thing we want to predict, so it is not counted as a feature.

(go to front page)

When you open up the front page you can input the number of examples and features that your data set contains. For our data set we have 5 examples and three features wo I will go ahead and add that in.

(go to the next webpage)

Now, we can input this data into the table the application created for us. We are going to input the data for each feature, and input the price of each example into the result column.

(go to the next webpage)

If you have relatively small data set, you can get the model just in a second. At this point, the algorithms functioning behind the scenes have developed a model. Now, we can input some features of a house so that you can predict the price. After that, simply click the submit button.

(go to the next webpage)

BOOM, you can see the prediction you want to make.

You can continue to predict prices for houses or go back and make a completely new model.

Conclusion:

As you can see, the website allows the general public to create models using machine learning in a very simple and easy to use format. It can create very accurate models, especially if it has a large data set, without necessarily requiring years and years of experience with artificial intelligence and machine learning. This is a great way not only to create easy and accurate models, but to introduce people into the field of machine learning.