**Proposal of developing a Web-based Machine Learning Application**

**Problem Statement**

Machine learning has been a hot topic in the news during recent years. However, only people who are working and study on computer science or a related field can learn machine learning and use it. However, machine learning shouldn’t be limited to these group of people. In daily life, people are facing all kind of data and make decisions based on them. However, human does not have the ability to take all these information into consideration. Sometimes, they need tools to help them build models and make predictions to help them make choice. Though people are reading news about machine learning and artificial intelligent every day, there aren’t many tools for the public to use. What they need is just some application to input the data they have. After using machine learning, they can use the model they build to make predictions.

I propose to create a web application with some machine learning algorithm. There are guilds on the webpage so that people can easily train some models for themselves.

**Purpose**

The main purpose of the build a web-based machine learning tool is to provide the public an easy access to machine learning and data optimize.

They need and want to have some tool to perform the data they have. For example, some people have some information about the price of their neighbors’ house, and they want to know a reasonable price to sell their house. A secondary purpose is to introduce people who are interested in machine learning to this area. By using this web application, they can try to build models by themselves; therefore, they may be attracted in machine learning and start to study how it works and how to let the machine learn something by itself.

**Topics to Investigate**

After studying basic knowledge about machine learning, I want to study more about the math behind the machine learning algorithm, so I plan to take online courses in machine learning. I also plan to read some academic articles so that I can have a better understanding of machine learning.

**Audience**

My main audience for this web project is those people who are struggling with tons of data but do not how to make decisions with these data. My secondary audience is those people who have strong interests in machine learning. They don’t have much knowledge about machine learning, but they want to try something in this field.

**methods and procedures**

The first stage of this project will be to study online course of machine learning to get the fundamental information about machine learning. I will watch some courses after attending classes on campus and finishing all my homework; therefore, I expect that it would take 2 weeks for me to finish watching them. The second step would be reading academic articles about machine learning. This will help me understand the principle behind that machine learning.

When I finished my research and get enough information, I would draft a progress schedule to build my project which will divide this project into small parts. I will estimate the time to complete each part. I expect each part will be independent so that I can easily perform troubleshooting. This step will take around 2 days because I need to think about how to make sure they are independent of each other.

After setting my schedule, I will work on the tasks in my schedule one by one. After coding for each part, I would test them and make sure they work correctly. I would make small changes to my timetable based on the problem I meet in coding and testing. This stage will take the largest amount of time. I believe I will spend 4 to 6 weeks on it.

The fourth step will be the final test. I would gather some data from the internet and my classmates and use them to test my algorithm. I will try to see if my program works correctly and can return the correct result. Some changes may be made to my program so that this web application can perform better and give more properly results. Hopefully, this part will take around 1 week.

The last part of will be the public test. I would let my classmates try this web application. I would talk with them to see if they are satisfied with the result comes from my application. Some part of the code may need to be changed if necessary. I also will investigate their feeling of using it. Base on that, I will modify my webpage and make it more user-friendly. This step will take around 1 week.\\\

**Qualifications and resources**

As a first-year computer engineering student, I have enough math and computer science knowledge to build this project. I also have taken a machine learning course on Coursera presented by Andrew Ng who is an expert in the artificial intelligence field. I also have experience in teaching machine learning to my friends who totally have no background in machine learning. I’m unique that I know what a freshman concern about.

**Work schedule**

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| --- | --- | --- |
| **Task** | **Estimated Time** | **Completion Date** |
| Taking course and making research | 2 weeks | 11th October |
| Making schedule | 2 days | 13th October |
| Building project | 5 weeks | 17th November |
| Final test | 1 week | 24th November |
| Public test | 1 week | 1st December |

**Budget**

There are no significant costs associated with this project. I plan to use free resources online to finish this project. When it comes to coding, I will use free coding language and a free IDE. The only cost would be the price of renting a server which is around $50 per month. The total possible cost to finish this project is around $50 depends on how long we want this project works.

**Call to Action**

At present, people out of the field of computer science or statistic do not have access to access machine learning. Also, there lots of news of artificial intelligent and machine learning in our daily life, and I believe there are great amount of people who want to try machine learning by themselves. After this project finished, all the people in the world can have access to my website and build machine learning model on their own. Please approve this project as soon as possible so that I can start the first part of taking course and making research.