Project Proposal – Personal Challenge

Recommendation tool for car choice

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Introduction:

My passion for cars is since I was a kid. I was always was interested in automobiles, upcoming models, specifications and all kind of information about them. Recently, I start looking for a car for myself, but I find out how difficult it is actually to decide which one to choose. Knowing that you have so many factors which you should consider, it's nearly impossible to choose the perfect one. You need to have a lot of knowledge and be deep in general. And for every person, the right car is different. That's what motivates me to create the following project.

My plan is to create AI, which gives choice recommendations to people who are searching to buy a car, based on pictures in their media profiles. The project might turn out too ambitious, so if I can't make it work by analyzing images, it will be based on their preferences and their lifestyle – data which they will input.

Purpose:

The problem nowadays is that you have such a wide range of cars, that you don't know which one to choose. People end up choosing the wrong car and afterwards blame it that it's bad – but it's not true. There are no bad cars, but a wrong-chosen one based on your needs. You might have the most expensive nail clipper, but if you are using it for cutting your hair, you wouldn't find it useful. The same goes for the car, if you are looking for an economy car for your family and you end up buying a two-seat sports vehicle, you wouldn't be happy. That's why I decide to make a tool, which helps you make a decision about a car purchase. It will take your social media images, process them and based on your lifestyle, the AI will give you a recommendation for a car. This tool will be for everybody, who is considering buying a car, but is not sure which one to choose. I think my solution is the best, because I will try to put as many as possible factors to be taken into account for the decision, so it will outstand the dealer's recommendation, which more often is the car they want to sell. If you don't like to go around, and hear different recommendations from everybody and end up even more confused, this tool is for you!

Deliverables:

At this moment, it's hard for me to tell already what and when will be delivered. However, I already started studying different Machine Learning algorithms and Neural Networks from this tutorial. It gave me some fundamentals at this point, but I am still halfway through the video. In general, what I will deliver throughout the semester, is an optimized version of the tool, every time with new features in it.

Planning and approach:

The data which the AI will be using will contain information and specification for most of the vehicles out there, and it will learn to match this information with user needs. For example, if you are low on budget, it will recommend you a cheap car, with low mileage consumption and cheap maintenance. Or if you have a family of 6, it will recommend a van. This tool's positive impact is that fewer people will end up spending money on the wrong cars and less stress in general when choosing a car. The negative impact is that the AI might not be 100% correct, so if it ends up giving the wrong recommendation and people jump for it, without double checking, they will be disappointed. Additionally, the model could give too obvious car recommendations and if it's too complicated, it might take a long for the algorithm to output the answer.

As a beginning, I will try to implement image processing using neural networks. Afterwards, I need to figure out how can I make the connection between the information I get from the images and some data for cars. I already have prepared data sets, which I can play around with:

https://www.kaggle.com/datasets/ander289386/cars-germany
https://www.kaggle.com/datasets/tr1gg3rtrash/cars-2022-dataset
https://www.kaggle.com/datasets/joanpau/cars-df

Here you can find small research which I did for the most important parts of the project.