

Model performance in real world case

Introduction:

The goal of this document is to demonstrate the AI model to the stakeholder. For the final demonstration I have developed a full-stack application with html/CSS/JavaScript for the front end and flask for the back-end.

Timing

The demonstration took place on the 30/11/2023

Demonstration Plan

The demonstration took place in Fontys R10, Eindhoven

Introduction: I will show the web page to the stakeholder and explain its features.

Demonstration:

Successful Movie Scenario:

I presented a case study of a recently successful movie, inputting its data into the tool. The app efficiently analyzed key success factors such as genre popularity, budget allocation, and director. The resulting dashboard vividly displayed the movie's success accuracy.

Not Successful Movie Scenario:

A contrasting scenario was then demonstrated with a film that didn't fare well. The tool showed the movie's not successful accuracy

Interactive Testing: The stakeholder will test the application.

Q&A Session: I will answer any questions given.

Demonstration video:

<https://www.youtube.com/watch?v=Zd38tErc0ac>

Feedback Report on AI Model Demonstration

Stakeholder Profiles

[Grift, Evert E.J.C. van de – film producer]: He is an accomplished film producer with a couple of films on Netflix, he is the main stakeholder of the project and now of the sources of information for the domain understanding.

Summary of Feedback

Transparency:

Understanding of the Model: The stakeholder has an understanding how the model works and the logic behind the choices of the input. For an example he knows that when he selects a well-known director with a lot of successful movies the accuracy of the prediction goes up opposite to selecting a one that it is not well known with not as much successful movies.

Clarity and Explanations Provided: The stakeholder has a great understanding of the results and the functionality. He even gave ideas for future additions. Some of the ideas he gave is to add the option to select the cast of the movie, to add the option to add multiple directors and to include movie reviews to the prediction.

Model Understanding: He knows that different features have different level of weight on the final decision of the model, since he is a movie producers, he has an insights of how these features correlate to the real world.

Impact Assessment: Now the impact of the model isn't that high when making informed decisions whether to invest in a movie or not. Additional information is required like the cast or to be able to select multiple directors. Additionally at the moment the model has a hard time predicting a non-successful movie.

Overall Evaluation of the Project

Going through the methods and the materials I have developed an accurate model with an accuracy of ~80% following each step of AI Project Methodology. There were challenges that were faced, the most challenging was getting the right sources for the data. There are still things that can be improved. For an example at the moment the model has a high bias towards movies, due to data imbalances, which are from the USA and United Kingdom with genre of action and keywords like marvel and dc, with studios yet again like marvel and dc that can bring the accuracy of such a movie to 70-80% of being successful with for an example of budget of 0 or -1 being release on a time period where such movies aren't as popular as other options, example for that that I can give is movies which have a holiday theme released around Christmas. Additionally due to the criteria that I used to mark a movie a success most of the movies in the dataset are successful making it harder to train the model to predict a movie which is not successful as proven in the phase 3 notebook. To fix these problems further analysis and data handling is needed. Furthermore, here correlation and causation are used as the same thing, the correlation is not the causation for the result. Example for this could be that movies during the summer have a higher budget so the reason for the movie to success during the summer is because of the higher budget and not because it's premier is in the summer. This conscientious approach to data preparation underscores our commitment to building a model that not only achieves high accuracy but also reflects a nuanced understanding of the diverse factors influencing movie success.