AdOpt: Optimised Fit For YouTube Ads

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PROJECT PROPOSAL

Introduction

Majority of people spend time scrolling reels, watching videos for various purposes like getting to know something, knowledge gathering, skill development, etc. YouTube being one of the most popular video sharing platforms can become a source of advertisement for non-premium users. Posting advertisements could be expensive and nobody wants to advertise something in the wrong place, to someone who is not interested in knowing it. Here comes the main role of the tool, AdOpt. AdOpt, a tool to get the best place to post an advertisement, showing it to the audiences who are interested and are actually looking for it. AdOpt uses coherence score and cohesion score in topic modelling to get the interested audience to watch the advertisement.

Project Objectives

Imagine an advertisement by Subway with special offers in a fitness or diet video. It is pretty obvious that the audience shows less or no interest in it. This issue can be overcome by knowing the appropriate place to post the advertisements which enhances the aim of advertising. AdOpt is a tool which provides the advertiser, the best places to post their advertisements. The objectives of the project include:

- Analysing the videos and users using coherence scores and cohesion scores between the video title, video description and user comments.
- Enhancing the purpose of advertisements, and benefiting the advertisers.
- Giving the users an opportunity to explore/know the area of their interest.

Project Scope and Methodology

YouTube API is used to gather the meta data like title of the video, description of the video and information of public interactions. A model is developed, AdOpt, to predict the relevancy of the advertisement placement. Advertisers are required to choose or input the category or type of advertisement they want to publish. To boost the performance of the advertisement, AdOpt uses the user interaction information like number of likes, views, type of comments and replies. The result generated is the list of optimised places to post the advertisement.

With the aim of enhancing the performance of the advertisements, filtering the video content and gathering the most popular ones based on likes, views and user interactions, predicting the relevancy of the video content for the advertisement and allowing the advertisers to

generate the number of results they want, the tool comes with certain limitations. This includes:

- The increasing complexity when the minimum number of views or likes set by the advertisers is less since the .
- Decision making is difficult for videos having irrelevant video title and description, videos with comments turned off and videos with more number of dislikes compared to likes but having more views.
- User information and data privacy must be considered and handled carefully.
- Machine learning models lack interpretability i.e providing or explaining the reason for placements of advertisements in the generated list.
- The performance of the prediction model varies depending upon the advertiser's input quality and the data availability on YouTube.

Project Resources

The YouTube Data API to get the video metadata, user interactions, comments and video recommendations, Youtube-8M dataset, user behaviour data and other datasets for sentiment analysis will be used for developing the prediction model.

Project Timeline

The project is expected to be divided into 6 phases:

1. Setting up the project environment and gathering the data.
2. Developing a predictive model for optimization of advertisements.
3. Training and Testing the model, and error handling.
4. Visualising the performance of the model in different scenarios.
5. Developing a user interface to demonstrate the working of the project.
6. Final project documentation and presentation.

Conclusion

This project aims to enhance the targeting and relevance of the advertisements on YouTube using Machine Learning. Using the analysis of the video data on YouTube and supervised machine learning model, it can be expected that the tool will ensure the advertisements reach the right audience.
