GTU CSE 495 GRADUATION PROJECT PRELIMINARY PRESENTATION

IMAGE RECOMMENDER

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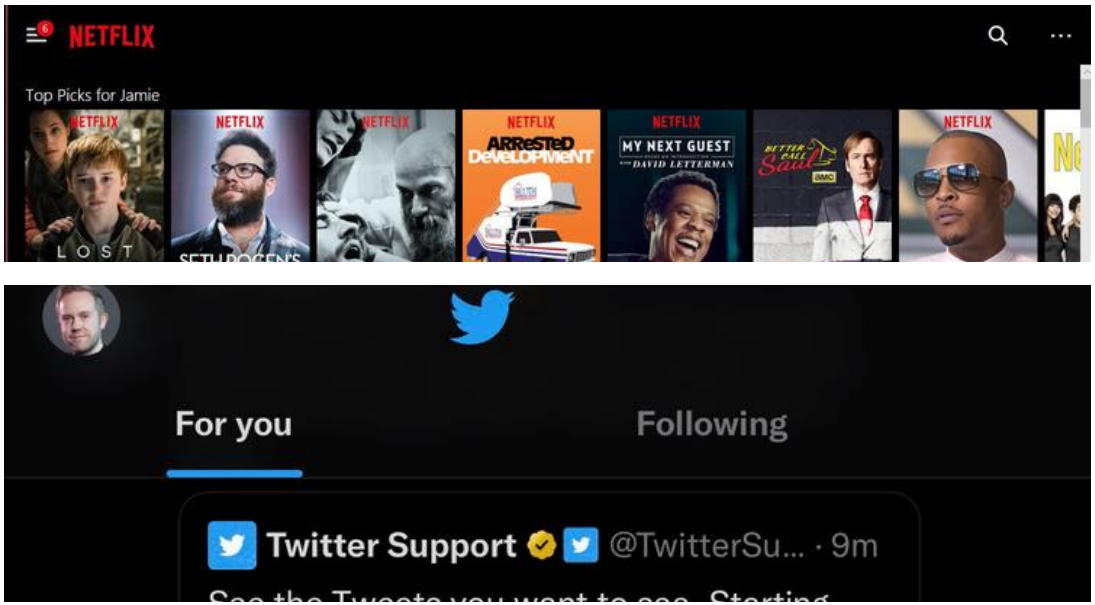
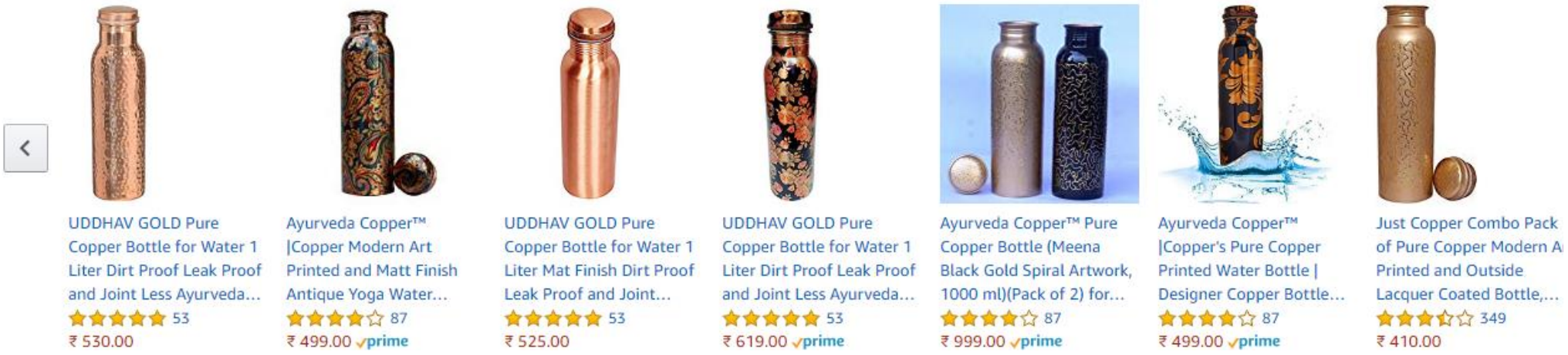
Introduction

A recommendation system is a type of software application or algorithm designed to provide personalized suggestions or recommendations to users.



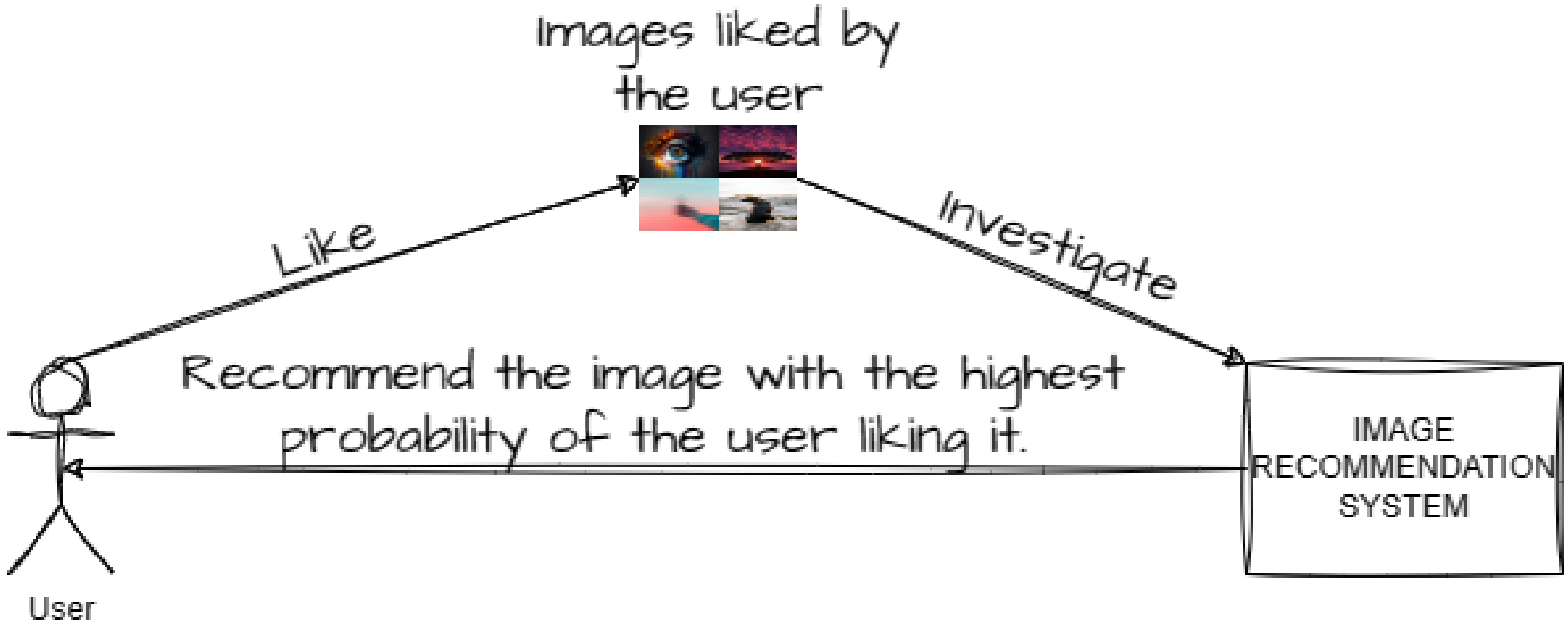
Introduction

An image recommendation system is a technology that suggests images to users based on their preferences and past interactions. It uses algorithms and machine learning to provide personalized image suggestions, often seen in online shopping and social media platforms.



Introduction

In this project, images liked by the user will be compared with the images in the dataset and the image with the highest probability of the user liking it will be recommended to user.

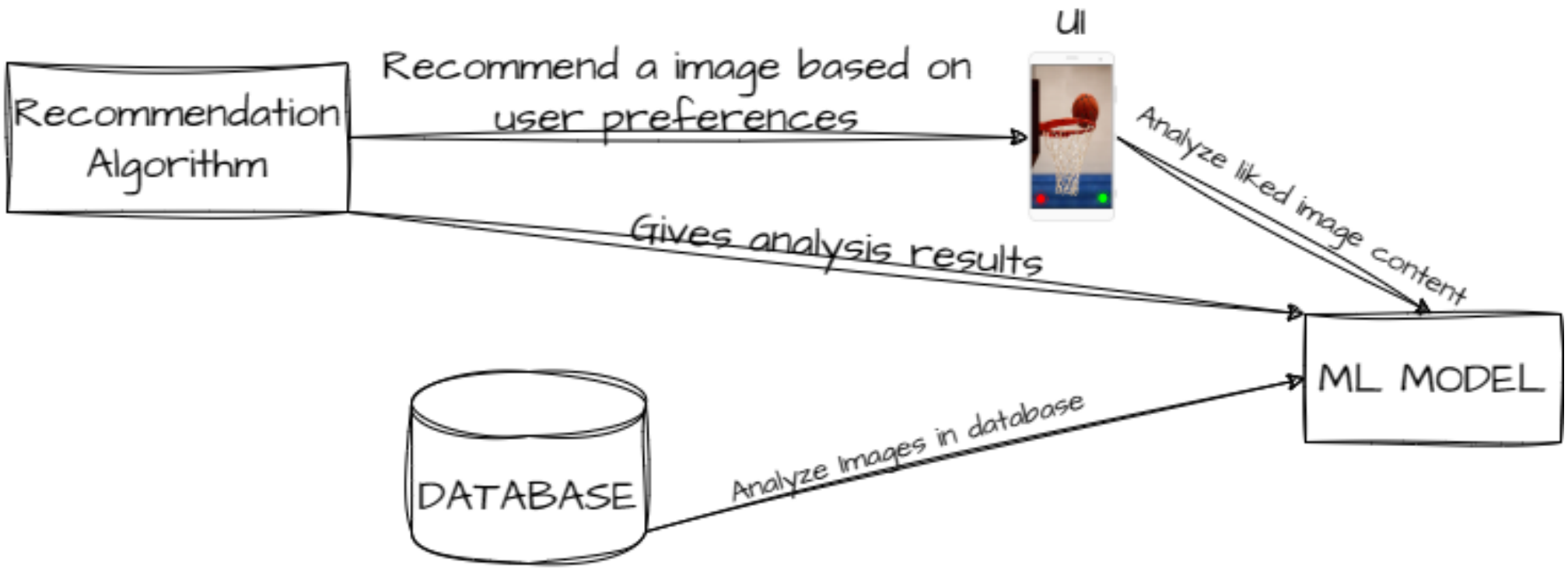


Design Plan

Image Recommendation system involves three main steps:

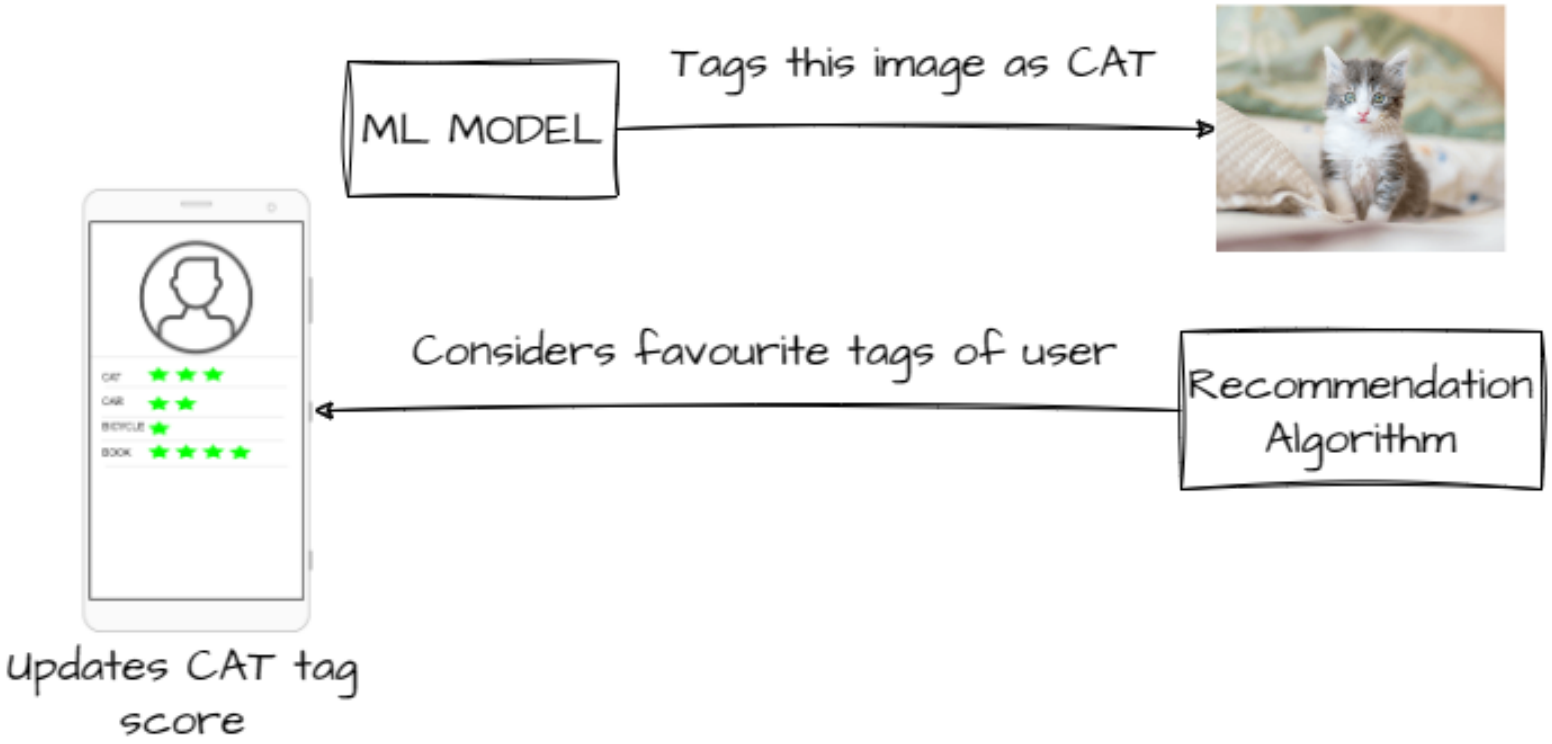
- **User Image Analysis**: A ML model analyzes images liked by the user to understand their preferences.
- **Database Image Analysis**: The ML model further analyzes images in the database.
- **Personalized Image Recommendations**: A recommendation algorithm suggests new images based on user preferences and the database analysis.

Design Plan


UI
Recommendation Algorithm
Recommend a image based on user preferences
Analyze liked image content
Gives analysis results
ML MODEL
DATABASE
Analyze images in database

Design Plan

There are different kinds of image recommendation techniques. Some of them are Content-based, probability-based, and **tag-based** recommendation. In this project, **tag-based** recommendation technique will be used.



Requirements

To complete this project, some of the requirements are;

- ML model must tag the images.
- A **recommendation algorithm** must be implemented to generete recommendatitons based on previous interactions of user with images.
- User interactions must be saved.
- A **user interface** must be created.
- Liking rate of user for the images should be measured.

Requirements

To satisfy the requirements, the following steps will be applied;

- **Python** will be used both GUI (not final call) and Machine Learning Model.
- **OpenCV** library will be used to tag images.
- **Firebase** (not final call) will be used to store images and user profiles.
- A large **dataset of images** must be collected.

Success Criteria

Success criteria for the image recommendation system are;

- The system must recommend **different** image from the previous image.
- Like rate must be higher than **30%**.
- Most of the recommendation image must contain the content which user **mostly like**.
- Contents must be changed at least **1 out of 5** images to avoid repetetion.

Sources

- https://proto.io/ [Creating Template UI]
- https://www.windowscentral.com/netflix-windows-10-nabs-compact-overlay [Netflix Image]
- https://twitter.com/tomwarren/status/1612968808599224320 [Twitter Image]
- https://www.youtube.com/watch?app=desktop&v=vNogT4RDw3I [Shorts, Reels, Tiktok Image]
- https://www.linkedin.com/pulse/recommender-systems-quickest-way-boost-your-online-sales-karabogali [Online Shopping Image]
- https://www.baeldung.com/cs/yolo-algorithm [Cat Image]

THANK YOU FOR LISTENING