Project 5

ML models used in Popular Apps. Eg: Instagram.

Meaning	Examples
Classification Model • Purpose: Classifies data into predefined categories or labels. • Example: Spam filtering in emails, where the model classifies an email as either "spam" or "not spam."	**Classification Model** Content Moderation: Instagram uses classification models to automatically detect and filter out inappropriate content, such as hate speech, violence, or nudity. The model classifies content into categories like "safe" or "unsafe."
Regression Model • Purpose: Predicts a continuous numeric value based on input data. • Example: Predicting house prices based on factors like location, size, and amenities.	**Regression Model** Ad Targeting: Instagram uses regression models to predict the likelihood that a user will click on a specific ad. The model predicts click-through rates (CTR) based on historical user behavior and other features like user demographics and engagement patterns.
Clustering • Purpose: Groups similar data points together without predefined labels. • Example: Segmenting customers into different groups based on purchasing behavior.	**Clustering** User Segmentation: Instagram uses clustering to segment users into different groups based on their interests, behavior, and interactions on the platform. These clusters help in personalizing the feed, suggesting relevant content, and improving ad targeting.
Reinforcement Learning • Purpose: Learns optimal actions through trial and error to maximize cumulative rewards. • Example: A recommendation system that improves its suggestions based on user interactions, like clicks or skips.	**Reinforcement Learning** Explore Tab Recommendations: Instagram uses reinforcement learning to continuously improve the content recommendations on the Explore tab. The model learns from user interactions (likes, shares, scrolls) to refine its suggestions, maximizing user engagement over time.

Project 5

ML models used in Popular Apps. Eg: Netflix.

Meaning	Examples
Classification Model • Purpose: Classifies data into predefined categories or labels. • Example: Spam filtering in emails, where the model classifies an email as either "spam" or "not spam."	**Classification Model** Content Categorization: Netflix uses classification models to categorize its vast library of content into genres, sub-genres, and tags. This helps in organizing the content and making it easily searchable for users.
Regression Model • Purpose: Predicts a continuous numeric value based on input data. • Example: Predicting house prices based on factors like location, size, and amenities.	**Regression Model** Viewing Time Prediction: Netflix uses regression models to predict how long a user is likely to watch a particular show or movie. This helps in tailoring content recommendations to maximize viewing time and user satisfaction.
Clustering • Purpose: Groups similar data points together without predefined labels. • Example: Segmenting customers into different groups based on purchasing behavior.	**Clustering** Personalized Recommendations: Netflix uses clustering to group users with similar viewing habits and preferences. These clusters are used to generate personalized recommendations, ensuring that users are shown content that aligns with their tastes.
Reinforcement Learning • Purpose: Learns optimal actions through trial and error to maximize cumulative rewards. • Example: A recommendation system that improves its suggestions based on user interactions, like clicks or skips.	**Reinforcement Learning** Dynamic Thumbnails: Netflix uses reinforcement learning to optimize the thumbnails displayed to users. The model learns from user interactions (clicks on thumbnails) to dynamically adjust which thumbnails are shown, aiming to increase click-through rates and engagement.