

# Analyzing data on popular tracks on TikTok:

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# Introduction

## Background



With the rapid growth of social media platforms, content such as videos, music, and songs have gained significant attention and interaction from users. Among many social platforms, TikTok, as a short video social app, has quickly taken the market by storm. The popularity of songs on TikTok is closely related to the level of interaction on the platform. Understanding which songs will gain more popularity on TikTok is crucial for artists, record companies, and advertisers.

Our project aims to predict the popularity of songs on TikTok based on their audio features. By building a machine learning model and combining feature engineering and data analysis, the system can provide users with popularity predictions. This task is highly valuable for content creators, music platforms, and advertisers.

# Introduction

## About our project



### Background

01

The significance of predicting TikTok song popularity.

### Dataset

02

Introduce the TikTok Songs dataset and its key features.

### Technologies and Tools

02

Python Libraries: Discuss the tools and libraries used in the project (Streamlit, Pandas, Matplotlib, etc.).

Machine Learning: Explain the models used (linear regression, random forest, etc.) for predicting popularity.

# Our Team

## Developer

### Jiani XU

Layout design and functional implementation of web front-end

Key contributions in terms of styling and interaction logic

Write code and test and debug to ensure good web compatibility

## Scrum Master

### Leyan CHENG

Organise meetings to ensure smooth team communication and manageable task progress

Help the team to resolve difficulties encountered in the development process

## Product Owner

### Yuxin GONG

Responsible for collating and maintaining product requirements and continuously digging deeper into user needs

Final acceptance criteria, making sure the design and functions all match and work well together.

## Developer

### Zhongjie WU

Create a preview page

Participation in meeting discussions

# Self- Evaluation

## Our advantage



01

### Effective communication and collaboration

Through regular team meetings and real-time collaboration platforms (e.g. Trello), everyone is able to quickly solve problems and make adjustments to tasks

02

### Cross-functional collaboration

Team members are not limited to technical development, but also include functions such as data analysis and UI design. This cross-functional collaboration ensures that every aspect of the project is optimized,

03

### Flexibility in responding to problems

Team members solved several technical challenges through collective wisdom. For example, how to deal with large amounts of data and how to optimize the training time of the model.

# Self- Evaluation

## Challenge



01

### Inconsistent timing of team members

Team members have different schedules, resulting in compromised task collaboration efficiency.

02

### Difficulty with time management and task forecasting

Insufficient forecasting of time for individual tasks, resulting in a concentrated workload in the middle and late stages of the sprints

03

### Challenges in technical implementation

Certain web page features were technically difficult to implement and took extra time.

# Our journey

## Sprint 1

**Defining team roles and responsibilities**

**Clarifying project goals**

**Knowing the project schedule and deadlines**

**Choosing and understanding which databases to use**

## Sprint 2

**Conducting initial data exploration (EDA)**

**Cleaning data and feature engineering**

**Identifying customer group**

**Understanding user needs**

## Sprint 3

**Code writing for machine learning**

**CI/CD**

**Creating a preview web page**

## Sprint 4

**Adaptation of models to user needs**

**Finalizing the code**

**Creating the final web page and debugging it**

**Reviewing our work and gathering lessons learned**