

Personalized Ranking of Tournaments For Users

Problem Statement: When a user logs in to the platform, they have to choose from a variety of tournament types (A / B / C / D). Additionally, different entry fees may be associated with every tournament. As a platform, we must ensure that the most relevant tournaments are suggested to the user based on their preferences.

Available Data: You will be given anonymized user gameplay data in 3 CSV files. Fields in the data are as described below:

Gameplay_Data.csv contains the following fields:

- Uid: Alphanumeric unique Id assigned to the user
- Eventtime: DateTime on which the user played the tournament
- Entry_Fee: Entry Fee for the tournament
- Win_Loss: 'W' if the user won that particular tournament, 'L' otherwise
- Winnings: How much money the user won in the tournament (0 for 'L')
- Tournament_Type: Type of tournament the user played (A / B / C / D)
- Num_Players: Number of players that played in this tournament
- OOT_holdout: True/False, True indicates the records for the solution evaluation*

**Do not use the Out-of-time holdout data for training*

Wallet_Balance.csv contains the following fields:

- Uid: Alphanumeric unique Id assigned to the user
- Timestamp: DateTime at which the user's wallet balance is given
- Wallet_Balance: User's wallet balance at the given timestamp

Demographic.csv contains the following fields:

- Uid: Alphanumeric unique Id assigned to the user
- Installed_At: Timestamp at which the user installed the app
- Connection_Type: User's internet connection type (Ex: Cellular / Dial-Up)
- Cpu_Type: Cpu type of device that the user is playing with
- Network_Type: Network type in encoded form
- Device_Manufacturer: Ex: Realme
- ISP: Internet Service Provider. Ex: Airtel
- Country
- Country_Subdivision
- City
- Postal_Code
- Language: Language that the user has selected for gameplay
- Device_Name
- Device_Type

Task: Assume that there is a heuristic-based solution already in place that shows the last three user preferences as the top three choices (ordered by recency). Build a recommendation system that is able to rank/recommend relevant tournaments and entry prices to the user while outperforming the current solution in the Out-of-time holdout data -.

The main objectives are:

1. A user should not have to scroll too much before selecting a tournament of their preference
2. We would like to move users to a higher entry fee whenever possible without having an adverse effect on the user experience

As part of your solution, please include the following components:

- Code
- Documentation that outlines the solution approach, assumptions, success metrics, and summary of final results
- Areas of improvement