

Dataset: <https://www.kaggle.com/leomauro/smmnet>

The records for SuperMario maps – in which contains players' data, clears' data which indicate a player have cleared a map, likes' records which indicates a played has liked a map

Goal: Recommend a suitable map to a player that he never play it before

Approach: Identify frequent player and popular map, then randomly pick a frequent player and popular map pair, and classify it as 1 if that player likes the map before, or otherwise classify it as 0.

[i.e. 1 presents like the map, 0 presents not like it or not played it before]

Then use double embedding for both player input and map input, and use the dot product of both embedding for the neural network for classification (using sigmoid function).

After that, select a sample player, and use the player embedding layer weights to compute the most similar players to him (in terms of preference, liking and not liking / playing maps). And recommend a map to the sample player that he never play it before, but is played by one of his most similar players.

Sample Output:

```
#Make a map recommendation to the sample player, in which a map played by the most similar player but not yet played by the sample player
#print(example_player)

most_similar_players_df = frequent_players_with_counts_2.nlargest(5, ['similarity_score'])
length = len(most_similar_players_df)

for i in range(length):
    if most_similar_players_df.iloc[i, 0] != str(example_player):
        #print("The most similar player is: ")
        #print(i)
        #print(most_similar_players_df.iloc[i, 0])

        set_of_maps_played_by_example_player = list(set(clears_df.loc[clears_df['player'] == str(example_player), 'id'].unique()))
        #print(set_of_maps_played_by_example_player)

        similar_player = str(most_similar_players_df.iloc[i, 0])

        set_of_maps_played_by_similar_player = list(set(clears_df.loc[clears_df['player'] == similar_player, 'id'].unique()))
        #print(set_of_maps_played_by_similar_player)

        for j in range(len(set_of_maps_played_by_similar_player)):
            #print(set_of_maps_played_by_similar_player[j])
            if set_of_maps_played_by_similar_player[j] not in set_of_maps_played_by_example_player:
                print("The recommended map for the selected player is:")
                print(set_of_maps_played_by_similar_player[j])
                break
        if i == length-1:
            print("The most similar players did not have maps not played by you, and therefore no suitable recommendations are made")
            break

    break

The recommended map for the selected player is:
E312-0000-0327-C0FB
```