collect

February 23, 2022

1 Dota 2 Data Collection

This is a collection of my Dota 2 stats using the Opendota API. Dota 2 is an online MOBA game that is very complex in nature with currently 123 heroes to select from. This project will be a summarization of different stats I collect about myself in the currently 1404 games I have played over the years.

```python
import config

import requests
import pandas as pd
import json
```

1.0.1 Initialize our connection to the API

```python
result = requests.get(f"https://api.opendota.com/api/matches/271145478?
 ↪api_key={config.api_key}")
result.status_code
```

```
[ ]: 200
```

1.0.2 Request our matches

```python
matches = requests.get(f"https://api.opendota.com/api/players/{config.
 ↪player_id}/matches")
matches_df = pd.read_json(matches.text)
matches_df
```

```
[ ]:         match_id  player_slot  radiant_win  duration  game_mode  lobby_type  \
     0      6439018464            4         True      2094         22           0
     1      6438932740          130         True      3398         22           0
     2      6435487456            2        False      3801         22           0
     3      6435452682          128        False      2241         22           0
     4      6433976001            2        False      2992         22           0
     ...           ...          ...          ...       ...        ...         ...
     1399   1212863940            2         True      3333          1           0
     1400   1191146511          131         True      2452          1           0
     1401    866365677          129         True      1947          1           0
```

```
1402   743658022              2      False      1575          1             0
1403   117908327              0      False      1823          4             0

        hero_id           start_time  version  kills  deaths  assists  skill  \
0            81  2022-02-19 08:45:42     21.0      4       4       10    NaN
1            99  2022-02-19 07:38:20     21.0      7      14       26    NaN
2           101  2022-02-17 04:19:15      NaN     18      13        8    NaN
3            54  2022-02-17 03:29:49     21.0     15       6        9    NaN
4            44  2022-02-16 05:03:37     21.0     17       6        8    NaN
...         ...                  ...      ...    ...     ...      ...    ...
1399         35  2015-02-04 23:37:37      NaN      5      16       16    NaN
1400         35  2015-01-27 00:13:37      NaN      1       7        4    NaN
1401          5  2014-08-31 03:09:05      NaN      0       5        0    NaN
1402         67  2014-06-26 23:37:19      NaN      1       7        1    NaN
1403         78  2013-02-06 02:47:39      NaN      0       6        1    NaN

        leaver_status  party_size
0                   0         2.0
1                   0         2.0
2                   0         NaN
3                   0         0.0
4                   0         0.0
...               ...         ...
1399                0         NaN
1400                0         NaN
1401                0         NaN
1402                1         NaN
1403                1         NaN

[1404 rows x 15 columns]
```

1.0.3 Requesting the hero ID's so we can merge them with the matches dataframe.

```python
heroes = requests.get("https://api.opendota.com/api/constants/heroes")
heroes_df = pd.read_json(heroes.text).T
heroes_df.rename(columns={'id':'hero_id', 'localized_name':'hero_name'},
 →inplace=True)
heroes_df[:5]
```

```
[ ]:   hero_id                             name        hero_name primary_attr  \
    1        1          npc_dota_hero_antimage         Anti-Mage          agi
    2        2               npc_dota_hero_axe               Axe          str
    3        3              npc_dota_hero_bane              Bane          int
    4        4        npc_dota_hero_bloodseeker       Bloodseeker          agi
    5        5  npc_dota_hero_crystal_maiden    Crystal Maiden          int

      attack_type                                          roles  \
```

```
1      Melee                                    [Carry, Escape, Nuker]
2      Melee   [Initiator, Durable, Disabler, Jungler, Carry]
3     Ranged                      [Support, Disabler, Nuker, Durable]
4      Melee     [Carry, Disabler, Jungler, Nuker, Initiator]
5     Ranged                      [Support, Disabler, Nuker, Jungler]

                                                             img  \
1  /apps/dota2/images/dota_react/heroes/antimage…
2       /apps/dota2/images/dota_react/heroes/axe.png?
3     /apps/dota2/images/dota_react/heroes/bane.png?
4  /apps/dota2/images/dota_react/heroes/bloodseek…
5  /apps/dota2/images/dota_react/heroes/crystal_m…

                                                icon base_health  \
1  /apps/dota2/images/dota_react/heroes/icons/ant…          200
2  /apps/dota2/images/dota_react/heroes/icons/axe…          200
3  /apps/dota2/images/dota_react/heroes/icons/ban…          200
4  /apps/dota2/images/dota_react/heroes/icons/blo…          200
5  /apps/dota2/images/dota_react/heroes/icons/cry…          200

   base_health_regen  … str_gain agi_gain int_gain attack_range  \
1               0.25  …      1.6      2.8      1.8          150
2               2.75  …      3.4      2.2      1.6          150
3               0.25  …      2.5      2.5      2.5          400
4               0.25  …      2.7      3.1        2          150
5               0.25  …      2.2      1.6      3.3          600

   projectile_speed attack_rate move_speed turn_rate cm_enabled legs
1                 0         1.4        310      None       True    2
2               900         1.7        310      None       True    2
3               900         1.7        305      None       True    4
4               900         1.7        300      None       True    2
5               900         1.7        280      None       True    2

[5 rows x 29 columns]
```

```python
matches_df = pd.merge(matches_df, heroes_df[['hero_id','hero_name']],
                      how='left')
```

1.0.4 Player wins arent explicitly given so we figure which side we're on and who won.

```python
matches_df['player_side'] = "Radiant"
matches_df.loc[matches_df.player_slot >= 128, ['player_side']] = "Dire"

matches_df['player_win'] = True
```

```
matches_df.loc[(matches_df['player_side'] == "Dire") &␣
 ↪(matches_df['radiant_win'] == True), ['player_win']] = False
matches_df.loc[(matches_df['player_side'] == "Radiant") &␣
 ↪(matches_df['radiant_win'] == False), ['player_win']] = False
matches_df
```

```
[ ]:          match_id  player_slot  radiant_win  duration  game_mode  lobby_type  \
     0       6439018464            4         True      2094         22           0
     1       6438932740          130         True      3398         22           0
     2       6435487456            2        False      3801         22           0
     3       6435452682          128        False      2241         22           0
     4       6433976001            2        False      2992         22           0
     ...            ...          ...          ...       ...        ...         ...
     1399    1212863940            2         True      3333          1           0
     1400    1191146511          131         True      2452          1           0
     1401     866365677          129         True      1947          1           0
     1402     743658022            2        False      1575          1           0
     1403     117908327            0        False      1823          4           0

           hero_id          start_time  version  kills  deaths  assists  skill  \
     0           81 2022-02-19 08:45:42     21.0      4       4       10    NaN
     1           99 2022-02-19 07:38:20     21.0      7      14       26    NaN
     2          101 2022-02-17 04:19:15      NaN     18      13        8    NaN
     3           54 2022-02-17 03:29:49     21.0     15       6        9    NaN
     4           44 2022-02-16 05:03:37     21.0     17       6        8    NaN
     ...        ...                 ...      ...    ...     ...      ...    ...
     1399        35 2015-02-04 23:37:37      NaN      5      16       16    NaN
     1400        35 2015-01-27 00:13:37      NaN      1       7        4    NaN
     1401         5 2014-08-31 03:09:05      NaN      0       5        0    NaN
     1402        67 2014-06-26 23:37:19      NaN      1       7        1    NaN
     1403        78 2013-02-06 02:47:39      NaN      0       6        1    NaN

           leaver_status  party_size        hero_name player_side  player_win
     0                 0         2.0      Chaos Knight     Radiant        True
     1                 0         2.0       Bristleback        Dire       False
     2                 0         NaN     Skywrath Mage     Radiant       False
     3                 0         0.0       Lifestealer        Dire        True
     4                 0         0.0  Phantom Assassin     Radiant       False
     ...             ...         ...               ...         ...         ...
     1399              0         NaN            Sniper     Radiant        True
     1400              0         NaN            Sniper        Dire       False
     1401              0         NaN    Crystal Maiden        Dire       False
     1402              1         NaN           Spectre     Radiant       False
     1403              1         NaN        Brewmaster     Radiant       False

     [1404 rows x 18 columns]
```

1.0.5 Export

```
[ ]: matches_df.to_csv("matches.csv")
```