total_points_top_35

February 12, 2024

1 Plot the top 35 players by total points since the 1992-1993 NBA Season.

```python
import plotly.graph_objs as go
import matplotlib.pyplot as plt
import numpy as np
from gql import gql, Client
from gql.transport.requests import RequestsHTTPTransport
import pandas as pd
import plotly.express as px
```

```python
# Setup the transport and client
_transport = RequestsHTTPTransport(
    url='http://127.0.0.1:8000/graphql/',
    use_json=True,
)

client = Client(
    transport = _transport,
    fetch_schema_from_transport=True,
)

# Define Query
query = gql('''
query playerPointTotals {
  playerTotalsAll(limit: 35, ordering: "-points") {
    playerName
    position
    team
    season
    minutesPg
    points
    id
  }
}
''')
```

```python
# Execute and store response

response = client.execute(query)

print(response)
```

{'playerTotalsAll': [{'playerName': 'Kobe Bryant*', 'position': 'SG', 'team': 'LAL', 'season': 2006, 'minutesPg': '3277.0', 'points': 2832, 'id': '10755'}, {'playerName': 'James Harden', 'position': 'PG', 'team': 'HOU', 'season': 2019, 'minutesPg': '2867.0', 'points': 2818, 'id': '3118'}, {'playerName': 'Kevin Durant', 'position': 'SF', 'team': 'OKC', 'season': 2014, 'minutesPg': '3122.0', 'points': 2593, 'id': '6229'}, {'playerName': 'Russell Westbrook', 'position': 'PG', 'team': 'OKC', 'season': 2017, 'minutesPg': '2802.0', 'points': 2558, 'id': '4778'}, {'playerName': 'Michael Jordan*', 'position': 'SG', 'team': 'CHI', 'season': 1993, 'minutesPg': '3067.0', 'points': 2541, 'id': '17728'}, {'playerName': 'Michael Jordan*', 'position': 'SG', 'team': 'CHI', 'season': 1996, 'minutesPg': '3090.0', 'points': 2491, 'id': '16287'}, {'playerName': 'LeBron James', 'position': 'SF', 'team': 'CLE', 'season': 2006, 'minutesPg': '3361.0', 'points': 2478, 'id': '10931'}, {'playerName': 'Kevin Durant', 'position': 'SF', 'team': 'OKC', 'season': 2010, 'minutesPg': '3239.0', 'points': 2472, 'id': '8553'}, {'playerName': 'Kobe Bryant*', 'position': 'SG', 'team': 'LAL', 'season': 2003, 'minutesPg': '3401.0', 'points': 2461, 'id': '12472'}, {'playerName': 'Michael Jordan*', 'position': 'SG', 'team': 'CHI', 'season': 1997, 'minutesPg': '3106.0', 'points': 2431, 'id': '15734'}, {'playerName': 'Kobe Bryant*', 'position': 'SG', 'team': 'LAL', 'season': 2007, 'minutesPg': '3140.0', 'points': 2430, 'id': '10228'}, {'playerName': 'Tracy McGrady*', 'position': 'SG', 'team': 'ORL', 'season': 2003, 'minutesPg': '2954.0', 'points': 2407, 'id': '12688'}, {'playerName': 'Dwyane Wade*', 'position': 'SG', 'team': 'MIA', 'season': 2009, 'minutesPg': '3048.0', 'points': 2386, 'id': '9520'}, {'playerName': 'David Robinson*', 'position': 'C', 'team': 'SAS', 'season': 1994, 'minutesPg': '3241.0', 'points': 2383, 'id': '17422'}, {'playerName': 'Jerry Stackhouse', 'position': 'SG', 'team': 'DET', 'season': 2001, 'minutesPg': '3215.0', 'points': 2380, 'id': '13849'}, {'playerName': 'Allen Iverson*', 'position': 'PG', 'team': 'PHI', 'season': 2006, 'minutesPg': '3103.0', 'points': 2377, 'id': '10917'}, {'playerName': "Shaquille O'Neal*", 'position': 'C', 'team': 'ORL', 'season': 1994, 'minutesPg': '3224.0', 'points': 2377, 'id': '17376'}, {'playerName': 'James Harden', 'position': 'SG', 'team': 'HOU', 'season': 2016, 'minutesPg': '3125.0', 'points': 2376, 'id': '5021'}, {'playerName': 'Stephen Curry', 'position': 'PG', 'team': 'GSW', 'season': 2016, 'minutesPg': '2700.0', 'points': 2375, 'id': '4931'}, {'playerName': 'Michael Jordan*', 'position': 'SG', 'team': 'CHI', 'season': 1998, 'minutesPg': '3181.0', 'points': 2357, 'id': '15171'}, {'playerName': 'James Harden', 'position': 'PG', 'team': 'HOU', 'season': 2017, 'minutesPg': '2947.0', 'points': 2356, 'id': '4431'}, {'playerName': 'Gilbert Arenas', 'position': 'PG', 'team': 'WAS', 'season': 2006, 'minutesPg': '3384.0', 'points': 2346, 'id': '10690'}, {'playerName': "Shaquille O'Neal*", 'position': 'C', 'team': 'LAL', 'season': 2000, 'minutesPg': '3163.0', 'points': 2344, 'id': '14264'}, {'playerName': 'James Harden', 'position': 'SG', 'team': 'HOU',

'season': 2020, 'minutesPg': '2483.0', 'points': 2335, 'id': '2455'},
{'playerName': 'Kobe Bryant*', 'position': 'SG', 'team': 'LAL', 'season': 2008,
'minutesPg': '3192.0', 'points': 2323, 'id': '9646'}, {'playerName': "Shaquille
O'Neal*", 'position': 'C', 'team': 'ORL', 'season': 1995, 'minutesPg': '2923.0',
'points': 2315, 'id': '16893'}, {'playerName': 'LeBron James', 'position': 'SF',
'team': 'CLE', 'season': 2009, 'minutesPg': '3054.0', 'points': 2304, 'id':
'9254'}, {'playerName': 'Allen Iverson*', 'position': 'PG', 'team': 'PHI',
'season': 2005, 'minutesPg': '3174.0', 'points': 2302, 'id': '11492'},
{'playerName': 'Kevin Durant', 'position': 'SF', 'team': 'OKC', 'season': 2013,
'minutesPg': '3119.0', 'points': 2280, 'id': '6803'}, {'playerName': 'Allen
Iverson*', 'position': 'SG', 'team': 'PHI', 'season': 2003, 'minutesPg':
'3485.0', 'points': 2262, 'id': '12615'}, {'playerName': 'LeBron James',
'position': 'SF', 'team': 'CLE', 'season': 2010, 'minutesPg': '2966.0',
'points': 2258, 'id': '8689'}, {'playerName': 'LeBron James', 'position': 'PF',
'team': 'CLE', 'season': 2018, 'minutesPg': '3026.0', 'points': 2251, 'id':
'3860'}, {'playerName': 'LeBron James', 'position': 'SF', 'team': 'CLE',
'season': 2008, 'minutesPg': '3027.0', 'points': 2250, 'id': '9838'},
{'playerName': 'Karl Malone*', 'position': 'PF', 'team': 'UTA', 'season': 1997,
'minutesPg': '2998.0', 'points': 2249, 'id': '15781'}, {'playerName': 'David
Robinson*', 'position': 'C', 'team': 'SAS', 'season': 1995, 'minutesPg':
'3074.0', 'points': 2238, 'id': '16939'}]}

```python
# Convert JSON to DF

df = pd.DataFrame(response['playerTotalsAll'])

df['minutesPg'] = df['minutesPg'].astype(float)
df['points'] = df['points'].astype(int)

# Sort data by points

df_sorted = df.sort_values('points', ascending=False).head(35)

df_sorted.head()
```

```
           playerName position team  season  minutesPg  points     id
0         Kobe Bryant*       SG  LAL    2006     3277.0    2832  10755
1         James Harden       PG  HOU    2019     2867.0    2818   3118
2         Kevin Durant       SF  OKC    2014     3122.0    2593   6229
3   Russell Westbrook       PG  OKC    2017     2802.0    2558   4778
4       Michael Jordan*       SG  CHI    1993     3067.0    2541  17728
```

```python
df_sorted['player_season'] = df_sorted.apply(lambda x: f"{x['playerName']}
({x['season']})", axis=1)
```

```python
import warnings

# Catch and remove stupid warning
```

```python
with warnings.catch_warnings():
    warnings.simplefilter(action='ignore', category=FutureWarning)

    fig = px.bar(df_sorted, y='player_season', x='points', color='position',␣
↪hover_data=['season', 'team', 'minutesPg'], labels={'points': 'Total␣
↪Points', 'playerName': 'Player Name', 'position': 'Position',␣
↪'player_season': 'Player (Season)'}, title='Top 35 NBA Players by Points␣
↪since the 1992-1993 season.')
    fig.show()
```