Decoding the UK Analyst Role: What Do Employers Want?

[1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from collections import Counter

df = pd.read_csv('data/reed_uk_data_analyst_skills.csv')
```

[2]:
```
print("Data shape:", df.shape)
print("\nFirst 5 rows:\n", df.head())
print("\nMissing values:\n", df.isnull().sum())
```

```
Data shape: (1528, 6)

First 5 rows:
                  job_title                                            job_url
\
0             Data Analyst  https://www.reed.co.uk/jobs/data-analyst/54606…
1      Junior Data Analyst  https://www.reed.co.uk/jobs/junior-data-analys…
2  Data Analyst Apprentice  https://www.reed.co.uk/jobs/data-analyst-appre…
3   Principal Data Analyst  https://www.reed.co.uk/jobs/principal-data-ana…
4  Data Analyst Apprentice  https://www.reed.co.uk/jobs/data-analyst-appre…

                    location              job_type  \
0                     London  Permanent, full-time
1           Chertsey, Surrey  Permanent, full-time
2    Stafford, Staffordshire  Permanent, full-time
3                     London  Permanent, full-time
4  Trafford Park, Lancashire  Permanent, full-time

                         salary                            skills
0           Competitive salary  power bi, python, sql, tableau
1           Competitive salary                 excel, power bi
2  £17,000 - £19,000 per annum            excel, power bi, sql
3           Competitive salary            python, sql, tableau
4  £18,000 - £21,000 per annum                 excel, power bi

Missing values:
```

```
 job_title    0
job_url      0
location     0
job_type     0
salary       0
skills       0
dtype: int64
```

[3]:
```
print("\nUnique job titles:\n", df['job_title'].value_counts())
print("\nUnique locations:\n", df['location'].value_counts())
print("\nUnique job types:\n", df['job_type'].value_counts())
print("\nUnique salary entries:\n", df['salary'].value_counts())

print("\nNumber of 'Not specified' entries:")
print(f"Salary: {len(df[df['salary'] == 'Not specified'])}")
print(f"Location: {len(df[df['location'] == 'Not specified'])}")
print(f"Job type: {len(df[df['job_type'] == 'Not specified'])}")
```

```
Unique job titles:
 job_title
Data Analyst                                    140
Trainee Software Developer                       99
Data Analyst Trainee                             97
Web Developer Trainee                            91
Data Science Trainee                             90
                                                ...
Growth Analyst                                    1
Financial Planning Analyst                        1
CRM Analyst                                       1
Interim Finance Analyst                           1
Financial Planning &amp;amp; Analysis Assistant   1
Name: count, Length: 605, dtype: int64

Unique locations:
 location
London                                  460
Manchester, Lancashire                   58
Leeds, West Yorkshire                    39
Birmingham, West Midlands (County)       33
City of London, London                   24
                                       ...
Middleton, Manchester, Lancashire         1
Tadworth, Surrey                          1
Chelmsford, Essex                         1
City of Westminster, London               1
Sandwich, Kent                            1
Name: count, Length: 262, dtype: int64
```

```
Unique job types:
 job_type
Permanent, full-time                 1338
Contract, full-time                   139
Temporary, full-time                   36
Permanent, full-time or part-time      12
Contract, part-time                     1
Contract, full-time or part-time        1
Permanent, part-time                    1
Name: count, dtype: int64

Unique salary entries:
 salary
£26,000 - £35,000 per annum                  188
Competitive salary                           164
£30,000 - £50,000 per annum                  112
£25,000 - £35,000 per annum                   93
Not specified                                 90
                                             ...
£350 per day, inc benefits                     1
£65,000 - £80,000 per annum                    1
£25,396.80 per annum                           1
£35,000 - £40,000 per annum, inc benefits      1
£53,000 - £57,000 per annum                    1
Name: count, Length: 323, dtype: int64

Number of 'Not specified' entries:
Salary: 90
Location: 0
Job type: 0
```

1 Skills analysis

[4]:
```
def split_skills(skills_text):
    return [skill.strip() for skill in str(skills_text).split(',')]

df['skills_list'] = df['skills'].apply(split_skills)
print(df[['skills', 'skills_list']].head())
```

```
                         skills                       skills_list
0  power bi, python, sql, tableau  [power bi, python, sql, tableau]
1                excel, power bi                [excel, power bi]
2           excel, power bi, sql           [excel, power bi, sql]
3           python, sql, tableau           [python, sql, tableau]
4                excel, power bi                [excel, power bi]
```

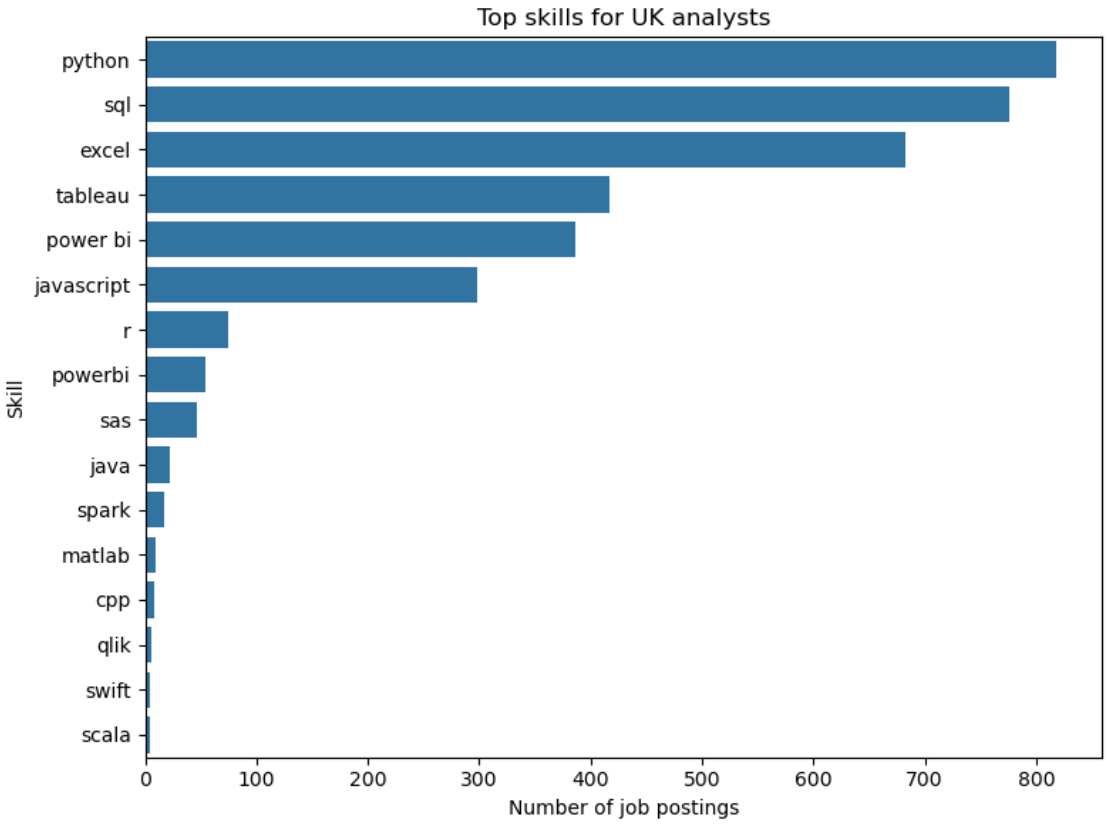
[5]:
```
# Count occurrences of each skill
all_skills = []
for skills in df['skills_list']:
    all_skills.extend(skills)

skill_counts = Counter(all_skills)

skills_freq_df = pd.DataFrame(skill_counts.most_common(), columns=['Skill',␣
 ↪'Frequency'])
print(skills_freq_df)
```

```
         Skill  Frequency
0       python        818
1          sql        776
2        excel        683
3      tableau        417
4     power bi        386
5   javascript        298
6            r         75
7      powerbi         54
8          sas         46
9         java         22
10       spark         17
11      matlab         10
12         cpp          8
13        qlik          6
14       swift          5
15       scala          5
```

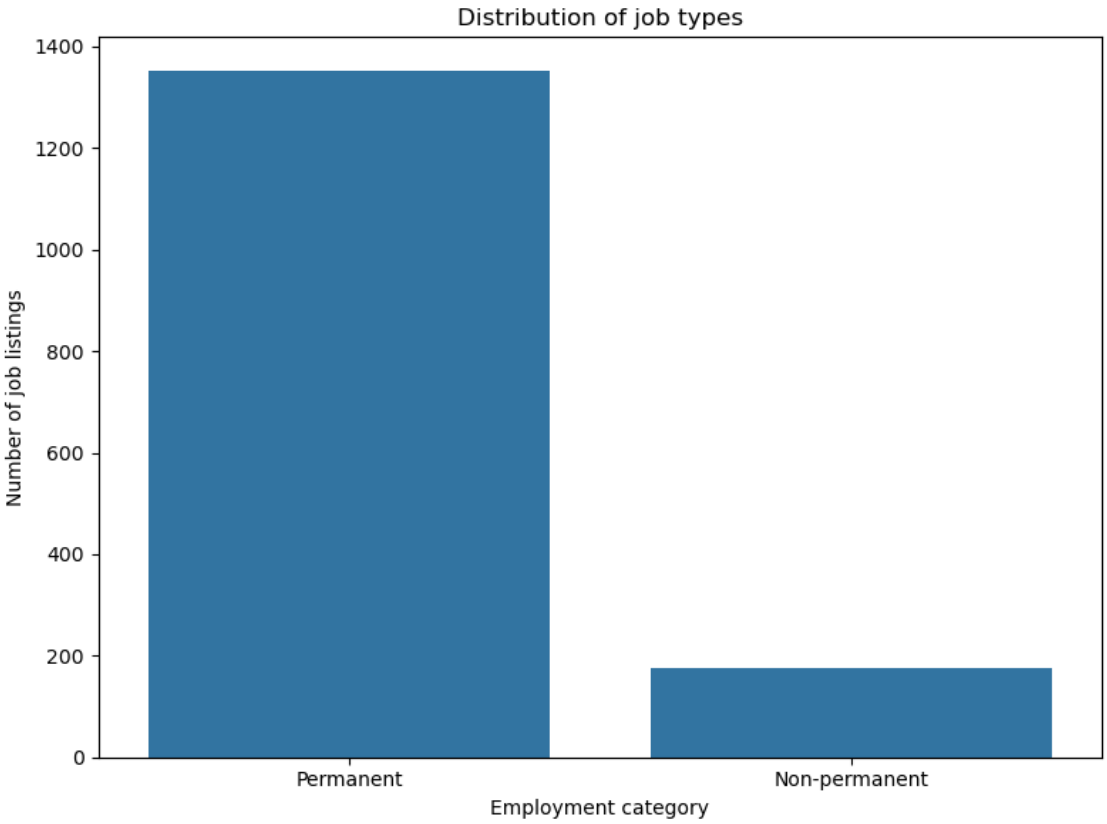
[6]:
```
plt.figure(figsize=(8, 6))
sns.barplot(data=skills_freq_df, x='Frequency', y='Skill')
plt.title('Top skills for UK analysts')
plt.xlabel('Number of job postings')
plt.ylabel('Skill')
plt.tight_layout()
plt.show()
```



2 Job type analysis

[7]:
```
# Permanent vs non permanent
df['employment_category'] = df['job_type'].apply(lambda x: 'Non-permanent' if␣
↪('Contract' in x or 'Temporary' in x) else 'Permanent')

plt.figure(figsize=(8, 6))
sns.barplot(data=df['employment_category'].value_counts())
plt.title('Distribution of job types')
plt.xlabel('Employment category')
plt.ylabel('Number of job listings')
plt.tight_layout()
plt.show()
```


Distribution of job types
Number of job listings
1400
1200
1000
800
600
400
200
0
Permanent
Non-permanent
Employment category