

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 & 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]

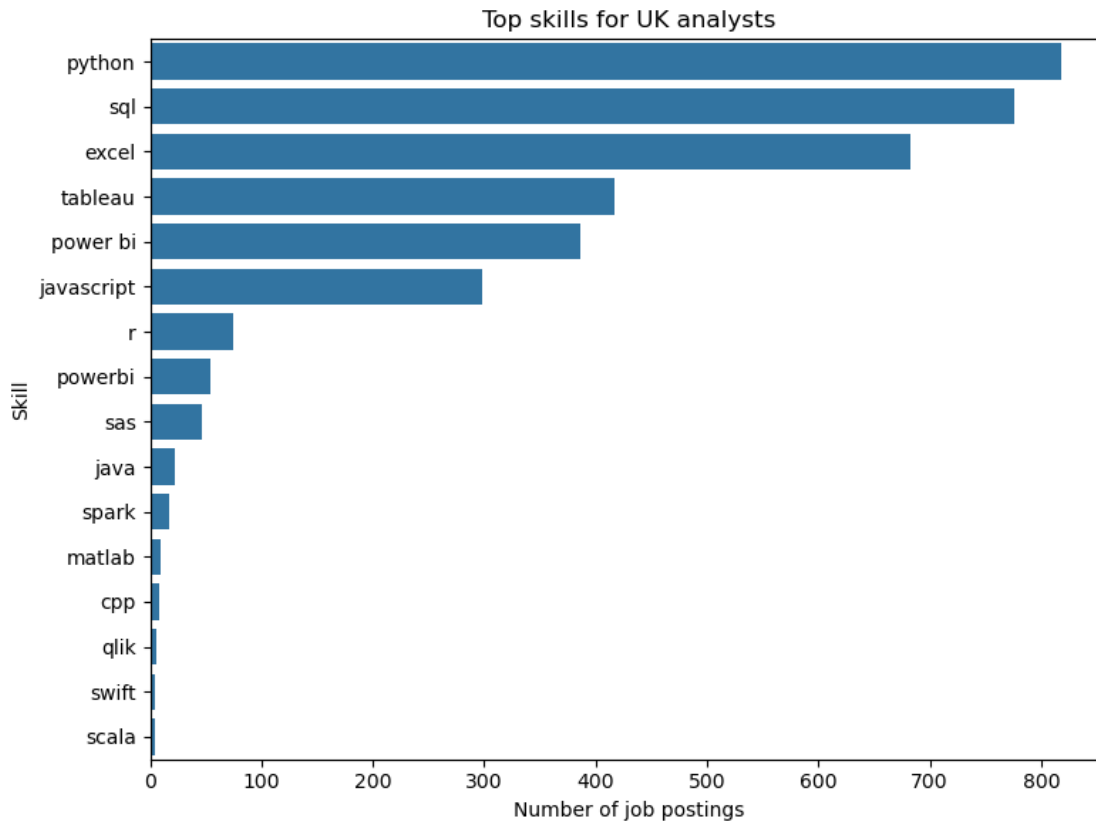
```
[5]: # Count occurrences of each skill
all_skills = []
for skills in df['skills_list']:
    all_skills.extend(skills)

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()
```

