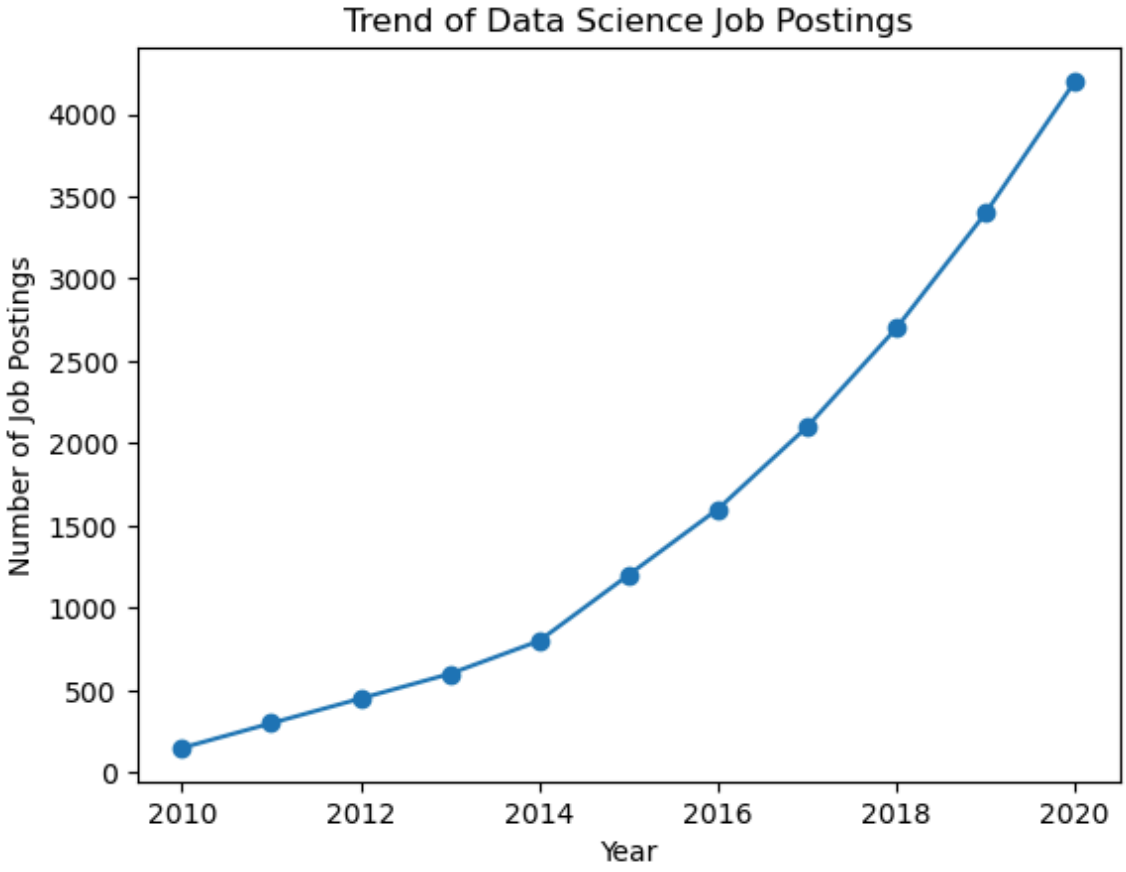
In [3]:
```
from cryptography.fernet import Fernet
key = Fernet.generate_key()
f = Fernet(key)
token = f.encrypt(b"My name is ......")
print(token)
decrypt = f.decrypt(token)
print(decrypt)
```

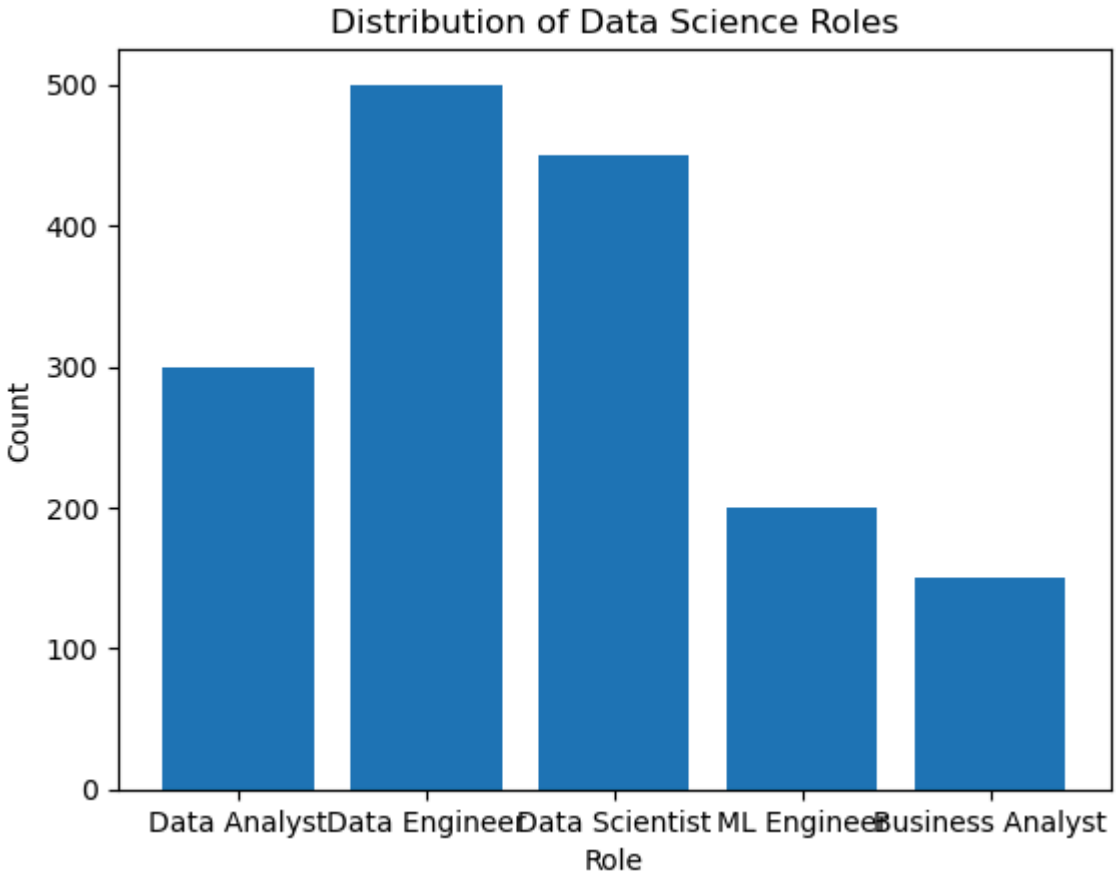
```
b'gAAAAABmwq9WcJaOOCZR59-S3mt2fNMn5h5Bp9zYtgcPO1cXG92tBNrYyhMrNLppJmldTVql
Z3lXy-VZTCiEFmEDkcEwHbqtV3PjcEUJct-PGXO1im-EHAg='
b'My name is ......'
```

In [4]:
```
import pandas as pd
import matplotlib.pyplot as plt
data = {'Year': list(range(2010, 2021)),
'Job Postings': [150, 300, 450, 600, 800, 1200, 1600, 2100, 2700, 3400, 4200

df = pd.DataFrame(data)
plt.plot(df['Year'], df['Job Postings'], marker='o')
plt.title('Trend of Data Science Job Postings')
plt.xlabel('Year')
plt.ylabel('Number of Job Postings')
plt.show()
```



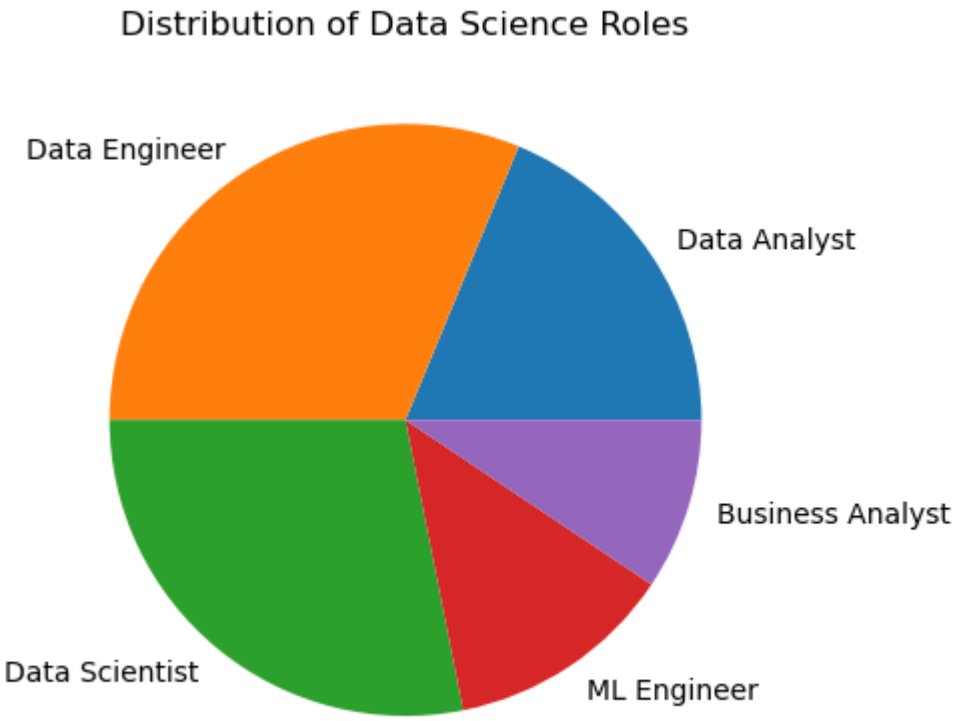
In [5]:
```
roles = ['Data Analyst', 'Data Engineer', 'Data Scientist', 'ML Engineer',
'Business Analyst']
counts = [300, 500, 450, 200, 150]
plt.bar(roles, counts)
plt.title('Distribution of Data Science Roles')
plt.xlabel('Role')
plt.ylabel('Count')
plt.show()
```




In [ ]:

In [10]:
```
roles = ['Data Analyst', 'Data Engineer', 'Data Scientist', 'ML Engineer',
'Business Analyst']
counts = [300, 500, 450, 200, 150]
plt.pie(counts,labels = roles)
plt.title('Distribution of Data Science Roles')

plt.show()
```



In [18]:
```
struct_data = {
    'id':[1,2,3],
    'Name':['Diwosh','Eru','Priyans'],
    'Age':['95','90','69']
}
struct_data_df = pd.DataFrame(struct_data)

unstruct_data = {
    'Eru 403 16.01.2007 Jupiter',
    'Priya 493 30.08.2010 Earth'
}
unstruct_data_df = pd.DataFrame(unstruct_data)

semi_struct_data = {
    'id':403,
    'Name':'Eru',
    'Details':{
        'Department':'CSE',
        'Year':'Second',
        'Semester':'Third'
    }
}
semi_struct_data_df = pd.DataFrame(semi_struct_data)


print("Structured Data: ")
print(struct_data_df)
print()

print("Unstructured Data: ")
print(unstruct_data_df)
print()

print("Semi-structured Data: ")
print(semi_struct_data_df)
```

```
Structured Data:
   id     Name Age
0   1   Diwosh  95
1   2      Eru  90
2   3  Priyans  69

Unstructured Data:
                             0
0  Priya 493 30.08.2010 Earth
1  Eru 403 16.01.2007 Jupiter

Semi-structured Data:
             id Name Details
Department  403  Eru     CSE
Semester    403  Eru   Third
Year        403  Eru  Second
```

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