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In [3]: import pandas as pd
import matplotlib.pyplot as plt
from statsmodels.graphics.tsaplots import plot_acf, plot_pacf
```

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In [4]: df = pd.read_csv(
    r"C:\Users\HP\OneDrive\Desktop\NLP\Data\ML471_S2_Datafile_Concept(in).csv"
)

# Convert Datetime column to datetime (change column name if needed)
df['Datetime'] = pd.to_datetime(df['Datetime'])

# Set datetime as index
df.set_index('Datetime', inplace=True)

# First-order differencing
df['Power_Consumption_diff'] = df['Consumption'].diff()

# Drop missing values after differencing
diff_series = df['Power_Consumption_diff'].dropna()
```

```
In [5]: plt.figure(figsize=(14, 6))

plt.subplot(1, 2, 1)
plot_acf(diff_series, lags=30, ax=plt.gca())
plt.title("ACF")

plt.subplot(1, 2, 2)
plot_pacf(diff_series, lags=30, ax=plt.gca(), method='ywmm')
plt.title("PACF")

plt.tight_layout()
plt.show()
```

