

```
In [ ]: import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
sns.set_palette("viridis")

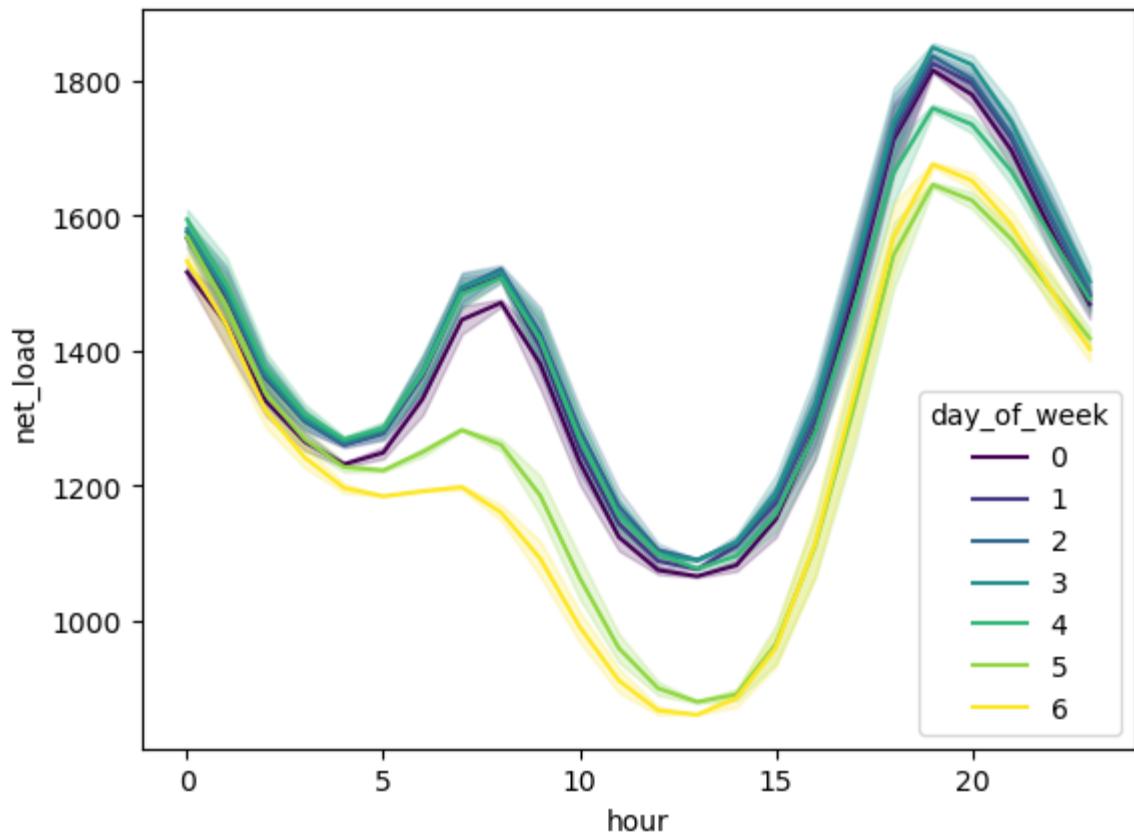
df = pd.read_csv('../data/merged_interpolated.csv')
df.datetime = df.datetime.astype('datetime64')
dt = df['datetime'].dt
df['year'] = dt.year
df['month'] = dt.month
df['day'] = dt.day
df['hour'] = dt.hour
df['minute'] = dt.minute
df['day_of_week'] = dt.day_of_week
df['week'] = dt.isocalendar().week
df['week_of_month'] = (dt.day - 1) // 7 # day of month - 1 (0-30) // 7 (0-6)
df.head()
```

Out[1]:

	datetime	tempc	cloud8	windk	wdir	humid	rainmm	radkm2	pv_est	net_load
0	2018-03-06 09:30:00	20.75	2.5	14.5	135.0	44.5	0.0	1915.0	318.991	1288
1	2018-03-06 10:00:00	21.50	1.0	16.0	140.0	40.0	0.0	2340.0	375.231	1237
2	2018-03-06 10:30:00	22.25	1.5	15.5	145.0	37.0	0.0	2570.0	430.909	1189
3	2018-03-06 11:00:00	23.00	2.0	15.0	150.0	34.0	0.0	2800.0	485.129	1150
4	2018-03-06 11:30:00	23.55	2.0	13.0	145.0	32.0	0.0	2945.0	523.989	1122

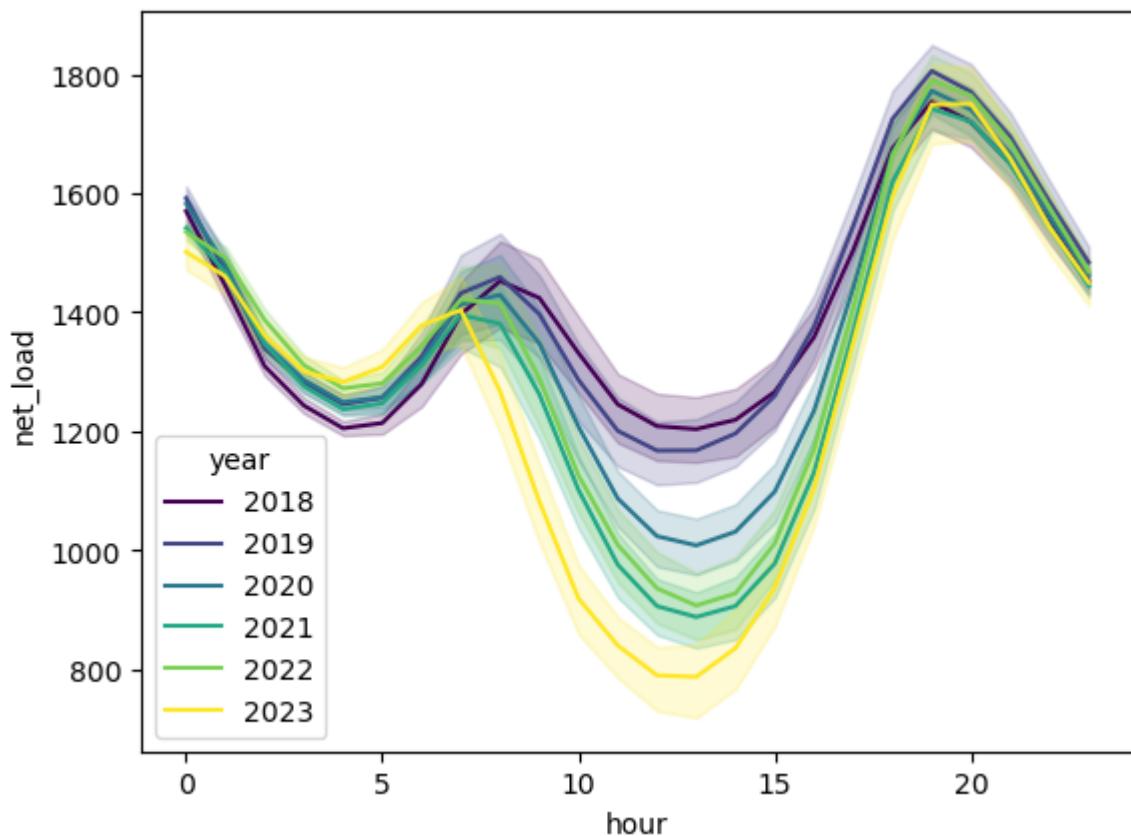
```
In [1]: grouped_dow = df.groupby(['day_of_week', 'hour', 'minute'])[['net_load']].mean()
sns.lineplot(x='hour', y='net_load', data=grouped_dow, hue='day_of_week',
             palette=sns.color_palette('viridis', as_cmap=True))
```

Out[1]: <Axes: xlabel='hour', ylabel='net_load'>



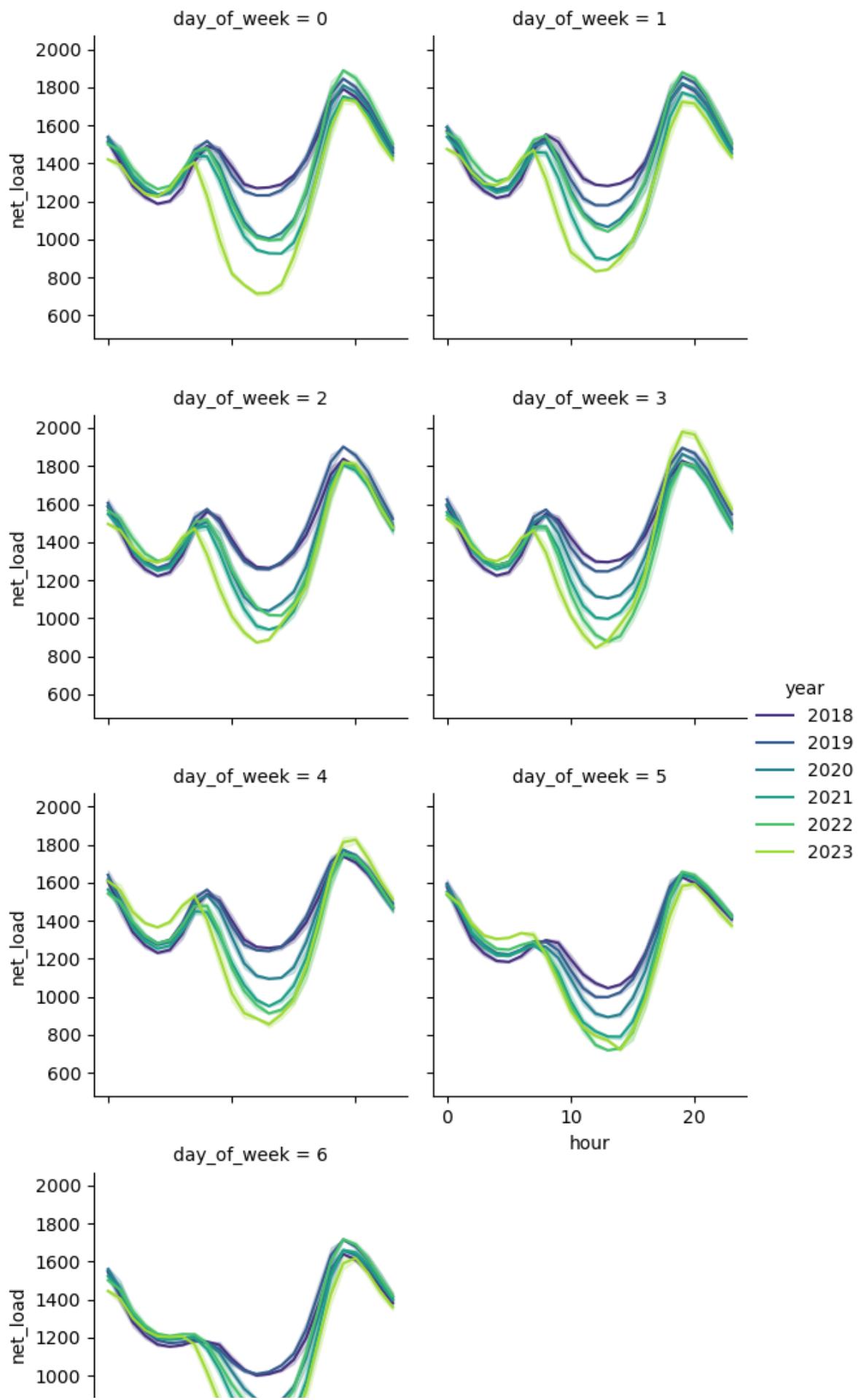
```
In [ ]: grouped_year_dow = df.groupby(['year', 'day_of_week', 'hour', 'minute'])[['r  
sns.lineplot(x='hour', y='net_load', data=grouped_year_dow, hue='year', pale
```

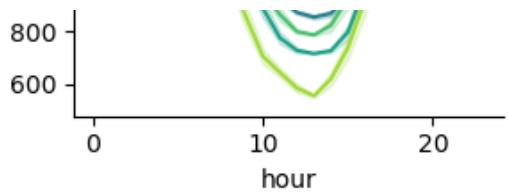
```
Out[ ]: <Axes: xlabel='hour', ylabel='net_load'>
```



```
In [ ]: g = sns.FacetGrid(grouped_year_dow.reset_index(), col='day_of_week', col_wrap=2,  
hue='year', palette='viridis')  
g.map(sns.lineplot, 'hour', 'net_load')  
g.add_legend()
```

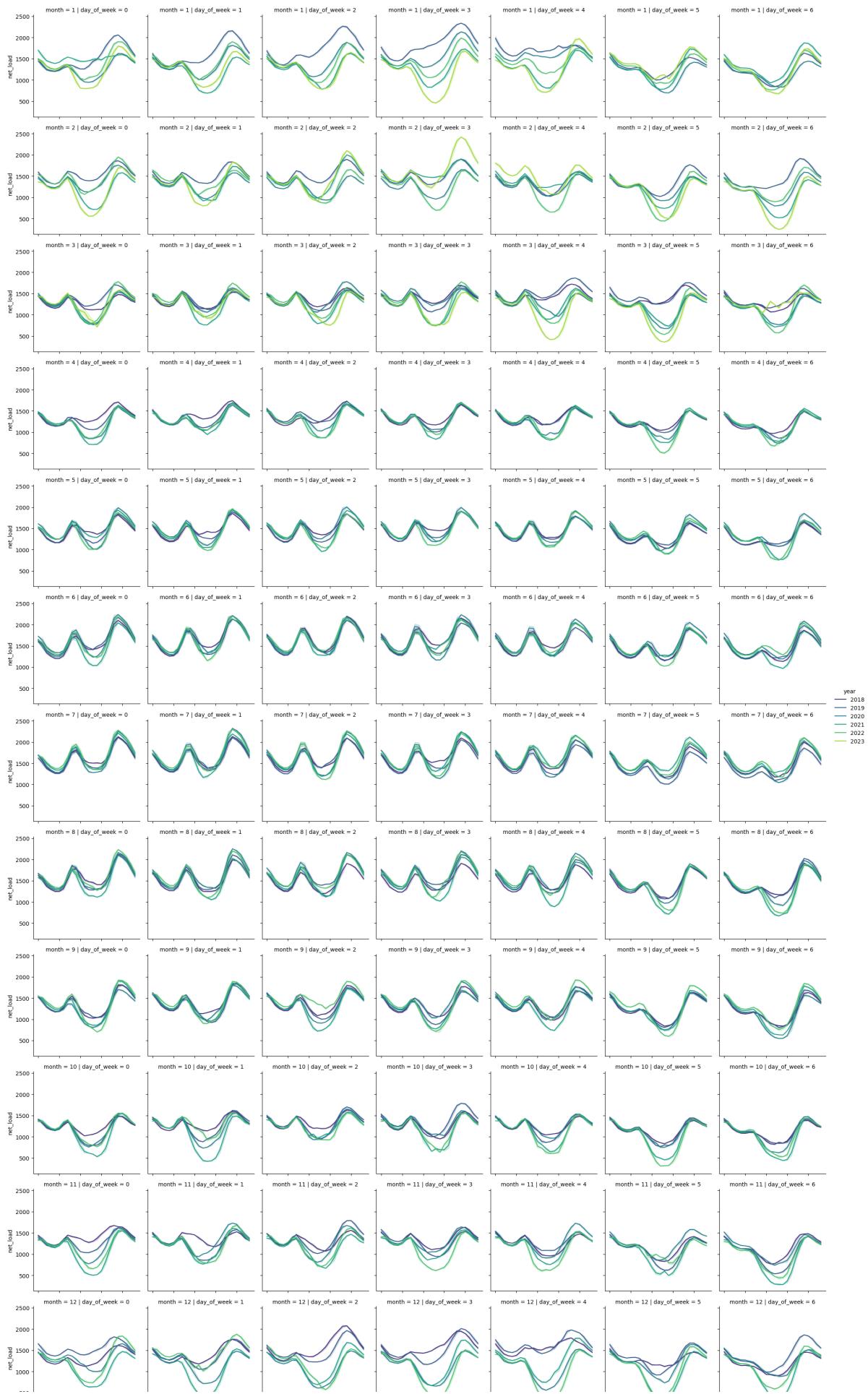
```
Out[ ]: <seaborn.axisgrid.FacetGrid at 0x7ff64e062fa0>
```

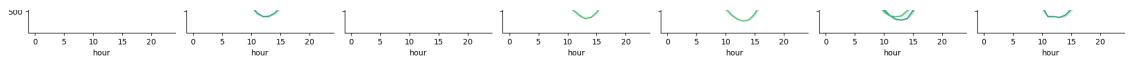




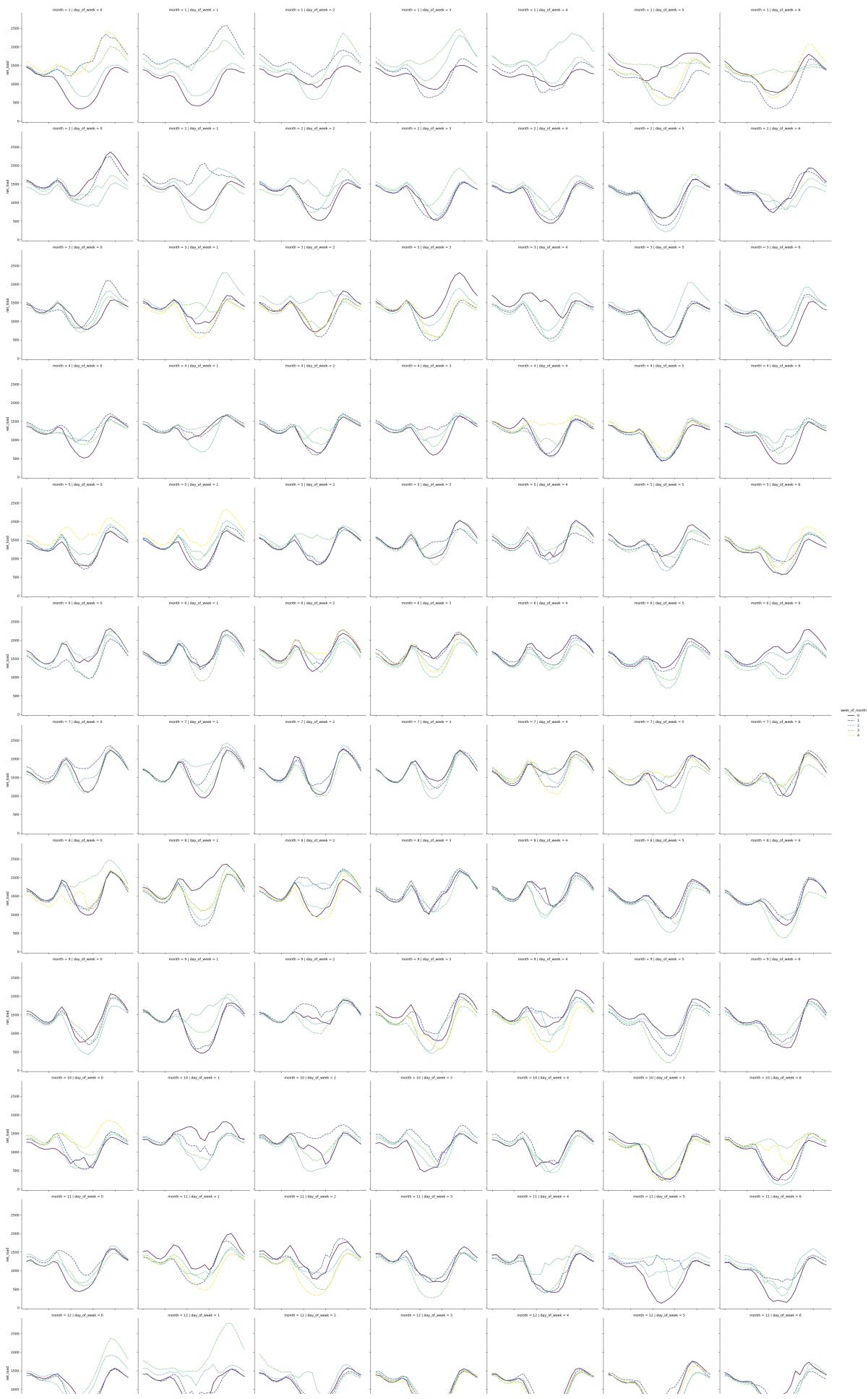
```
In [ ]: grouped_year_month_dow = df.groupby(['year', 'month', 'day_of_week', 'hour'],
g = sns.FacetGrid(grouped_year_month_dow.reset_index(), row='month', col='da
                           hue='year', palette='viridis')
g.map(sns.lineplot, 'hour', 'net_load')
g.add_legend()
```

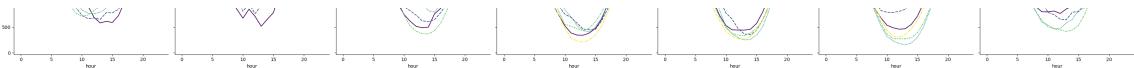
```
Out[ ]: <seaborn.axisgrid.FacetGrid at 0x7ff64f2b30a0>
```





```
In [ ]: grouped_month_week_dow = df[df.year == 2022].groupby(['year', 'month', 'weekg = sns.relplot(data=grouped_month_week_dow.reset_index(), x='hour', y='net_load',row='month', col='day_of_week', kind='line', errorbar=None, hue='week_of_month', style='week_of_month', palette='viridis', legend='f
```





```
In [ ]: grouped_year_week_dow = df.groupby(['year', 'week', 'day_of_week', 'hour', 'hour'])  
g = sns.relplot()  
grouped_year_week_dow.reset_index(), x='hour', y='net_load', row='week',  
hue='year', palette='viridis', style='year', kind='line', legend='full',
```

