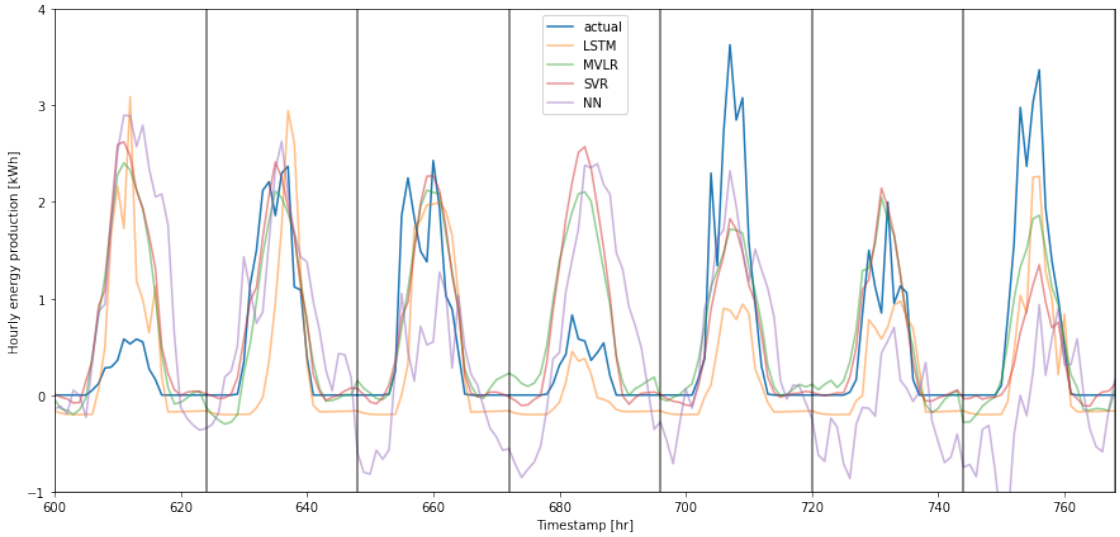
W16_PlotAllModelsInOneGraph

January 12, 2021

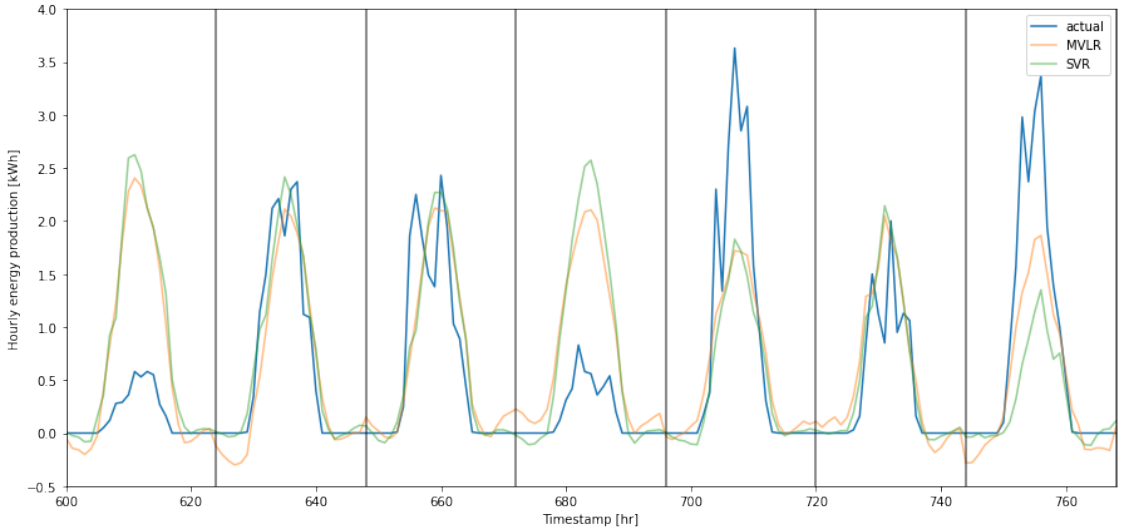
[1]:
```
import numpy as np
import matplotlib.pyplot as plt
```

1 production

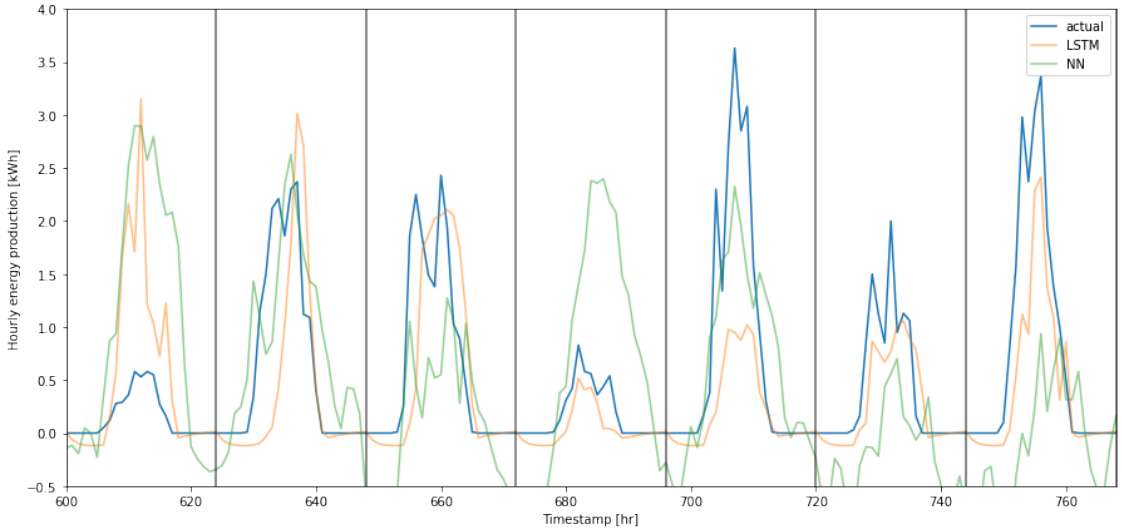
[3]:
```
#load data
actual = np.load("actual_production.npy")
LSTM = np.load("LSTM_production.npy")
NN = np.load("NN_production.npy")
SVR = np.load("SVR_production.npy")
MVLR = np.load("MVLR_production.npy")

#plotting
plt.subplots(figsize=(15,7))
plt.plot(actual,label="actual")
plt.plot(LSTM,label="LSTM",alpha=0.5)
plt.plot(MVLR,label="MVLR",alpha=0.5)
plt.plot(SVR,label="SVR",alpha=0.5)
plt.plot(NN,label="NN",alpha=0.5)

#nice layout
plt.xlim([600,768])
plt.ylim([-1,4])
plt.xlabel("Timestamp [hr]")
plt.ylabel("Hourly energy production [kWh]")
#plt.grid()
[plt.axvline(i*24,color="black",alpha=0.6) for i in range(int(len(actual)/24))]
plt.legend()
plt.savefig("AllModels_OneGraph_production.png",dpi=1200)
plt.show()
```



[17]:
```
#load data
actual = np.load("actual_production.npy")
LSTM = np.load("LSTM_production.npy")
NN = np.load("NN_production.npy")
SVR = np.load("SVR_production.npy")
MVLR = np.load("MVLR_production.npy")

#plotting
plt.subplots(figsize=(15,7))
plt.plot(actual,label="actual")
plt.plot(MVLR,label="MVLR",alpha=0.5)
plt.plot(SVR,label="SVR",alpha=0.5)

#nice layout
plt.xlim([600,768])
plt.ylim([-0.5,4])
plt.xlabel("Timestamp [hr]")
plt.ylabel("Hourly energy production [kWh]")
#plt.grid()
[plt.axvline(i*24,color="black",alpha=0.6) for i in range(int(len(actual)/24))]
plt.legend()
plt.savefig("AllModels_OneGraph_production_MachineLearning.png",dpi=1200)
plt.show()
```

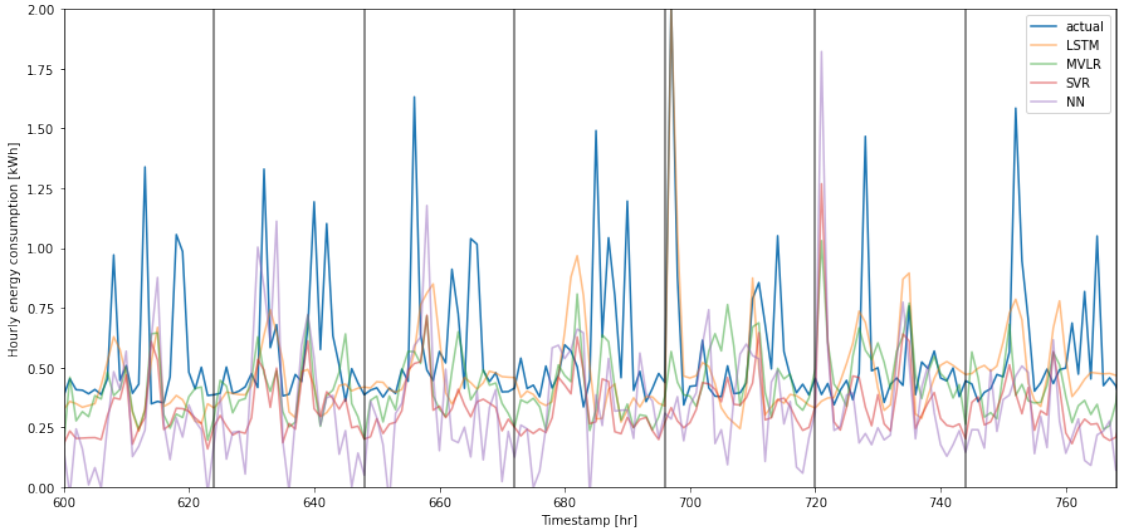


[7]:
```
#load data
actual = np.load("actual_production.npy")
LSTM = np.load("LSTM_production.npy")
NN = np.load("NN_production.npy")
SVR = np.load("SVR_production.npy")
MVLR = np.load("MVLR_production.npy")

#plotting
plt.subplots(figsize=(15,7))
plt.plot(actual,label="actual")
plt.plot(LSTM,label="LSTM",alpha=0.5)
plt.plot(NN,label="NN",alpha=0.5)

#nice layout
plt.xlim([600,768])
plt.ylim([-0.5,4])
plt.xlabel("Timestamp [hr]")
plt.ylabel("Hourly energy production [kWh]")
#plt.grid()
[plt.axvline(i*24,color="black",alpha=0.6) for i in range(int(len(actual)/24))]
plt.legend()
plt.savefig("AllModels_OneGraph_production_DeepLearning.png",dpi=1200)
plt.show()
```

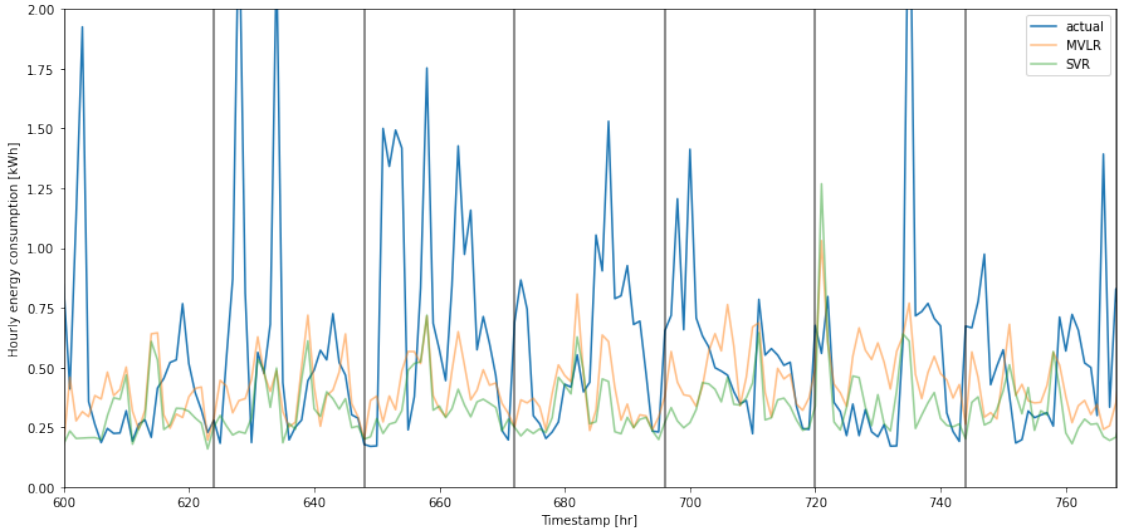


2 Consumptie

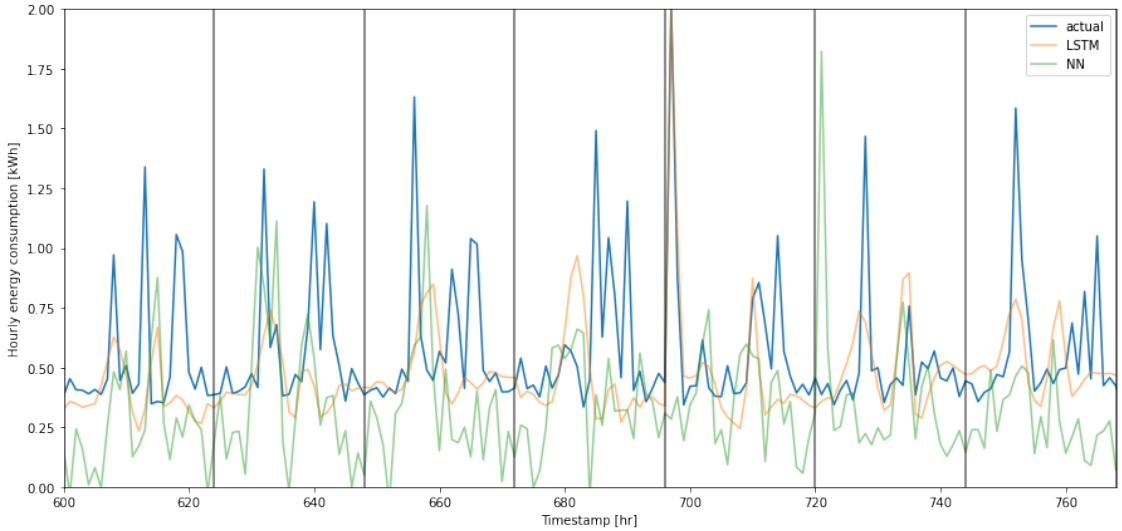
[10]:
```
#load data
actual = np.load("actual_consumption.npy")
LSTM =(np.load("LSTM_consumption.npy"))
NN = np.load("NN_consumption.npy")
SVR = np.load("SVR_consumption.npy")
MVLR = np.load("MVLR_consumption.npy")

#plotting
plt.subplots(figsize=(15,7))
plt.plot(actual,label="actual")
plt.plot(LSTM,label="LSTM",alpha=0.5)
plt.plot(MVLR,label="MVLR",alpha=0.5)
plt.plot(SVR,label="SVR",alpha=0.5)
plt.plot(NN,label="NN",alpha=0.5)

#nice layout
plt.xlim([600,768])
plt.ylim([0,2])
plt.xlabel("Timestamp [hr]")
plt.ylabel("Hourly energy consumption [kWh]")
#plt.grid()
[plt.axvline(i*24,color="black",alpha=0.6) for i in range(int(len(actual)/24))]
plt.legend()
plt.savefig("AllModels_OneGraph_consumption.png",dpi=1200)
plt.show()
```



[3]:
```
#load data
actual = np.load("actual_consumption.npy")
LSTM = (np.load("LSTM_consumption.npy"))
NN = np.load("NN_consumption.npy")
SVR = np.load("SVR_consumption.npy")
MVLR = np.load("MVLR_consumption.npy")

#plotting
plt.subplots(figsize=(15,7))
plt.plot(actual,label="actual")
plt.plot(MVLR,label="MVLR",alpha=0.5)
plt.plot(SVR,label="SVR",alpha=0.5)

#nice layout
plt.xlim([600,768])
plt.ylim([0,2])
plt.xlabel("Timestamp [hr]")
plt.ylabel("Hourly energy consumption [kWh]")
#plt.grid()
[plt.axvline(i*24,color="black",alpha=0.6) for i in range(int(len(actual)/24))]
plt.legend()
plt.savefig("AllModels_OneGraph_consumption_MachineLearning.png",dpi=1200)
plt.show()
```



[9]:
```
#load data
actual = np.load("actual_consumption.npy")
LSTM = (np.load("LSTM_consumption.npy"))
NN = np.load("NN_consumption.npy")
SVR = np.load("SVR_consumption.npy")
MVLR = np.load("MVLR_consumption.npy")

#plotting
plt.subplots(figsize=(15,7))
plt.plot(actual,label="actual")
plt.plot(LSTM,label="LSTM",alpha=0.5)
plt.plot(NN,label="NN",alpha=0.5)

#nice layout
plt.xlim([600,768])
plt.ylim([0,2])
plt.xlabel("Timestamp [hr]")
plt.ylabel("Hourly energy consumption [kWh]")
#plt.grid()
[plt.axvline(i*24,color="black",alpha=0.6) for i in range(int(len(actual)/24))]
plt.legend()
plt.savefig("AllModels_OneGraph_consumption_DeepLearning.png",dpi=1200)
plt.show()
```


actual
LSTM
NN
Hourly energy consumption [kWh]
Timestamp [hr]
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
600
620
640
660
680
700
720
740
760

[ ]: