Bakery Sales Prediction

A DEEP LEARNING PROJECT BY
AMELIE, CHRISTOPHER, NIKO & SAMIRA

Structure

Introduction *Dataset* *Method* *Results* *Summary*

Introduction

Daily sales from a bakery over a time span of about 6 years and corresponding weather data for the same zone. Possible tasks:

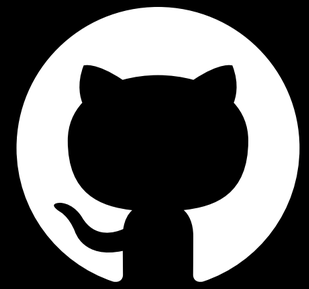
- Prediction of future sales values
- Prediction of future sales values with and without weather data + analysis of why and if this matters
- Prediction of weather data from sales
- Clustering of the sales data using unsupervised learning? (try this to your own risk)

TOOLS

Jupyter Notebook

Google Colab

GitHub



Dataset

03

kiwo.csv

contains: the dates for the kieler week
github.com/opencampus-sh/bakery-sales-project/blob/master/data/kiwo.csv

sales.csv

contains: date, group of the product, and the value of the sale for that day
github.com/opencampus-sh/bakery-sales-project/blob/master/data/sales.csv

wheather.csv

contains: date, cloudiness, temperature, wind speed and weather code
github.com/opencampus-sh/bakery-sales-project/blob/master/data/wheather.csv

CHALLENGES

Data Preprocessing

Irrelevant Data

Over/Underfitting Training Data

RESULTS

LR TUNER
1 -6

DNN LOSS
1 -6

DNN PREDICTIONS
1 -6

LSTM LOSS
1 -6

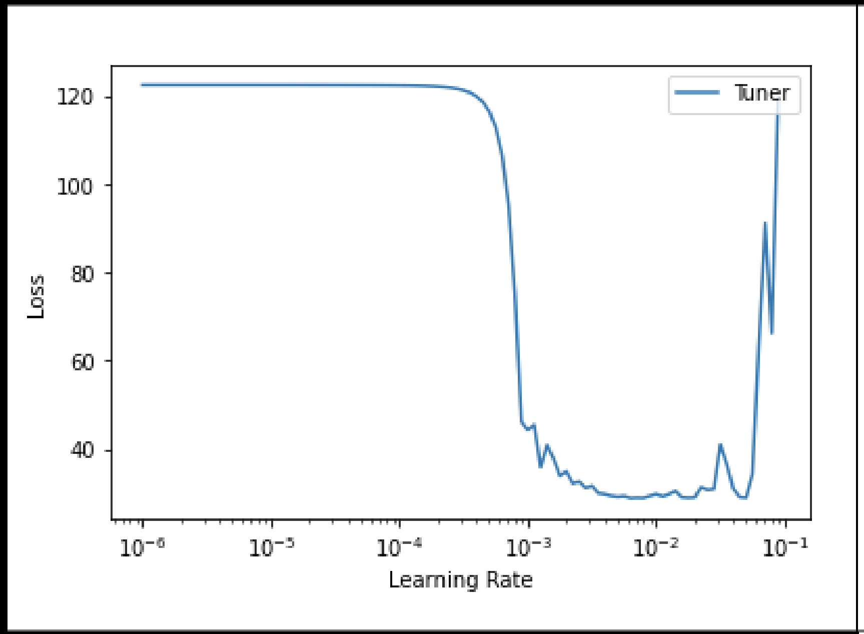
LSTM PREDICTIONS
1 -6

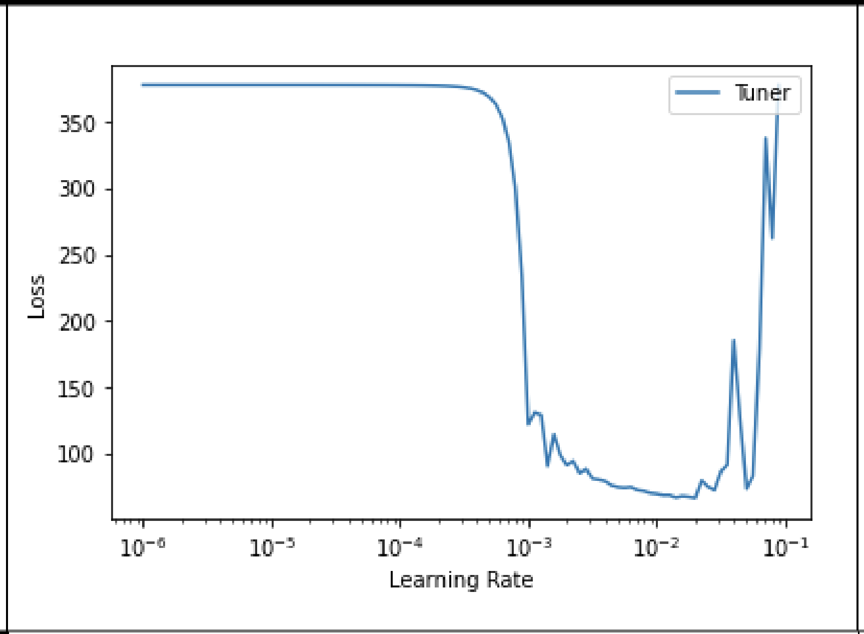
FOURIER MAE
1 -6

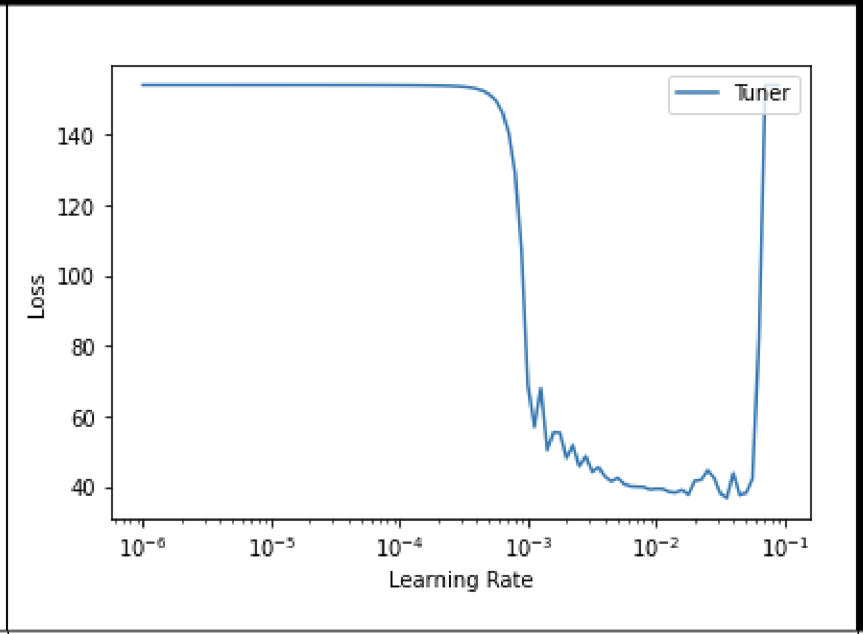
MOVING AVERAGE
1 -6

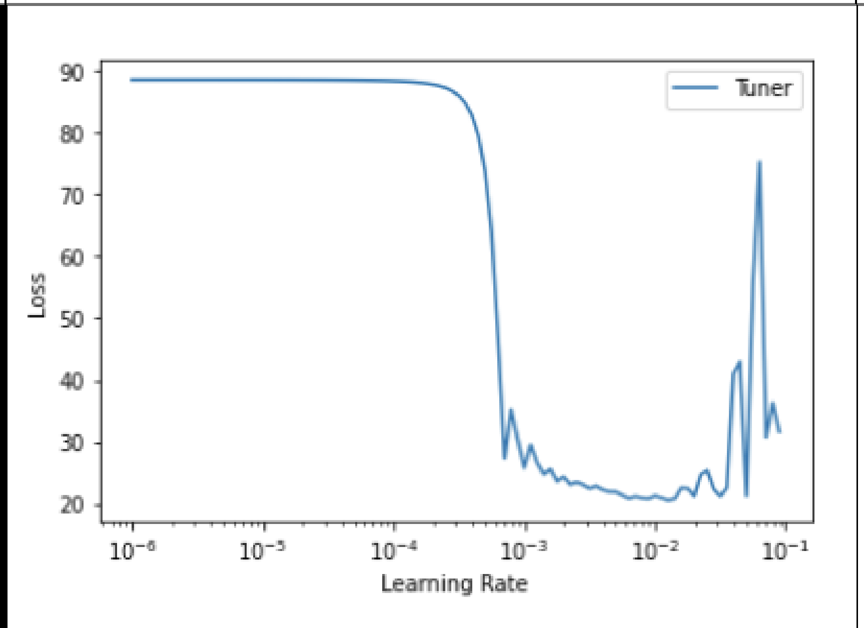
LR TUNER GROUP 1 – 6

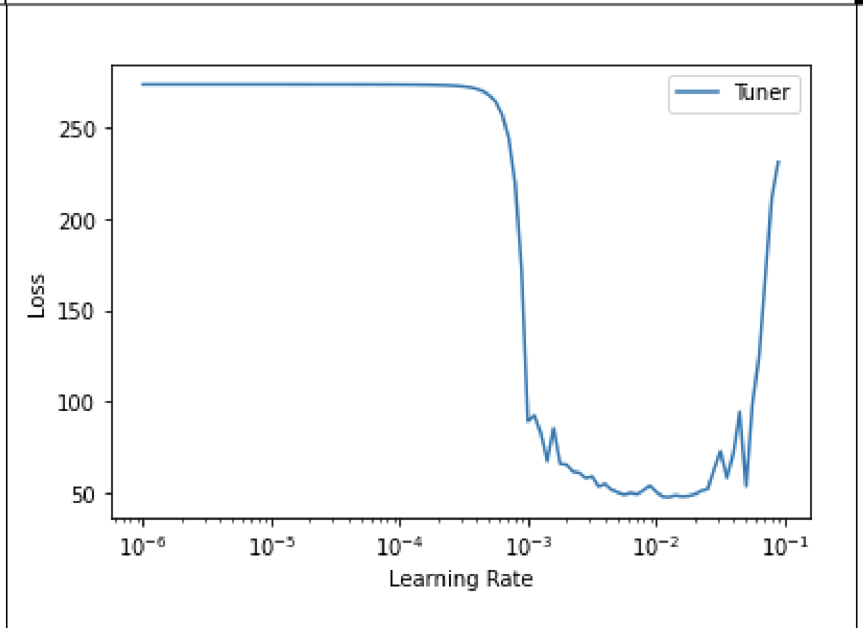
06

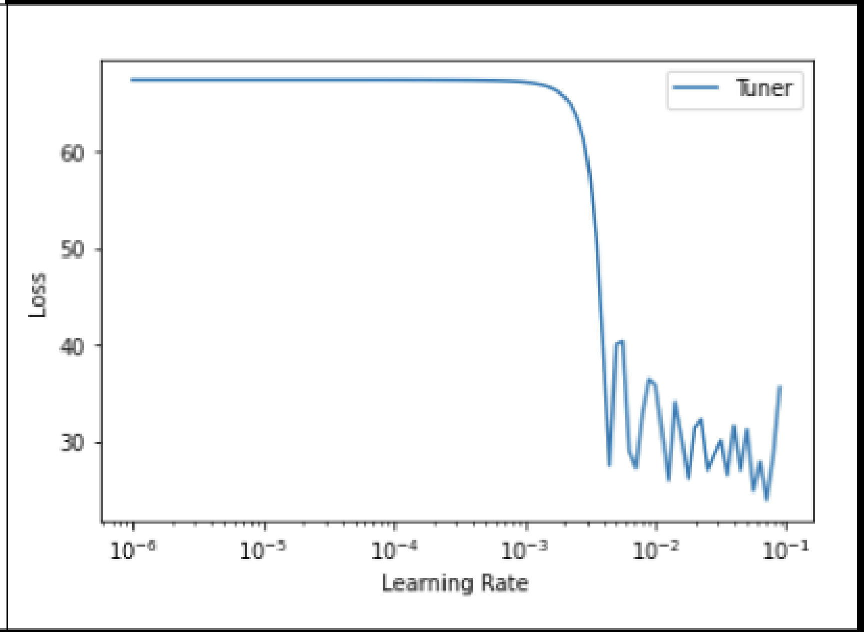




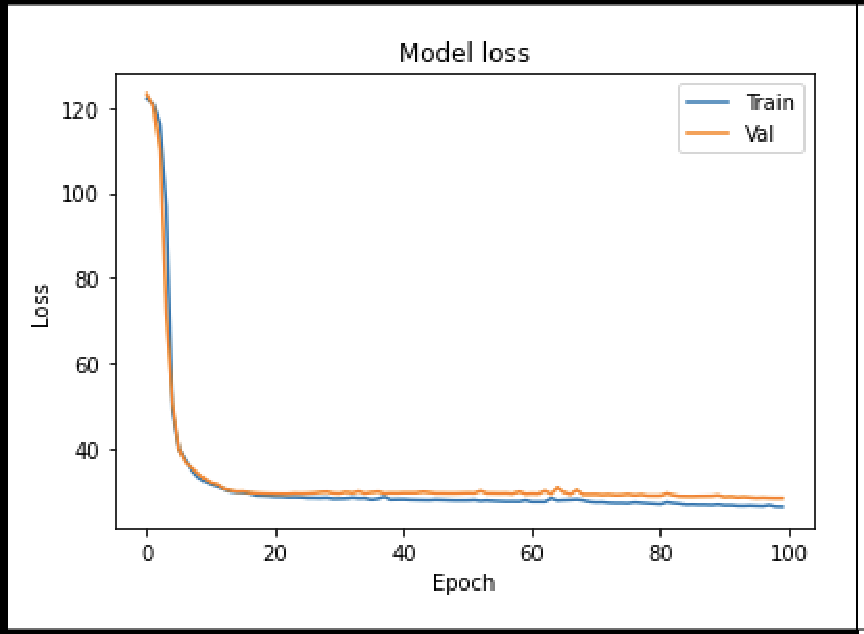


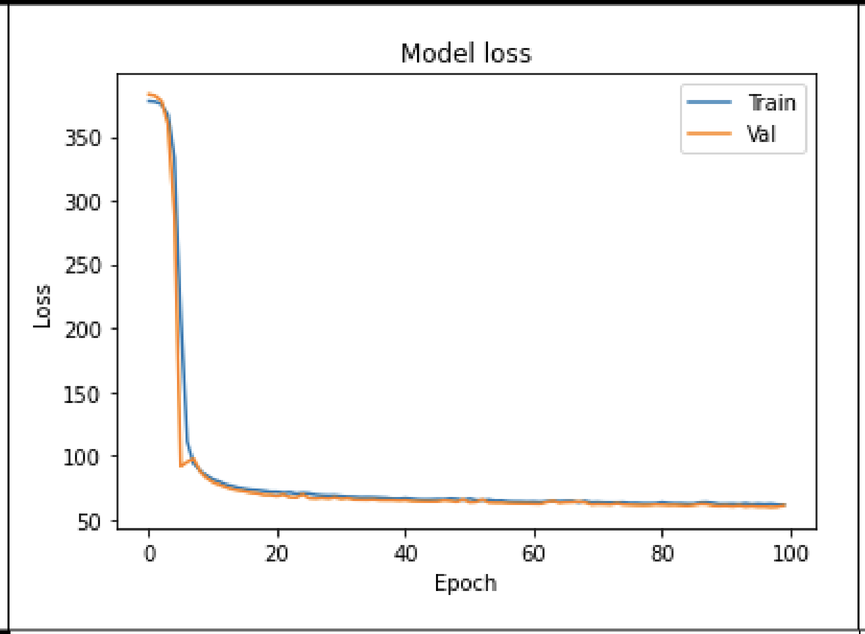


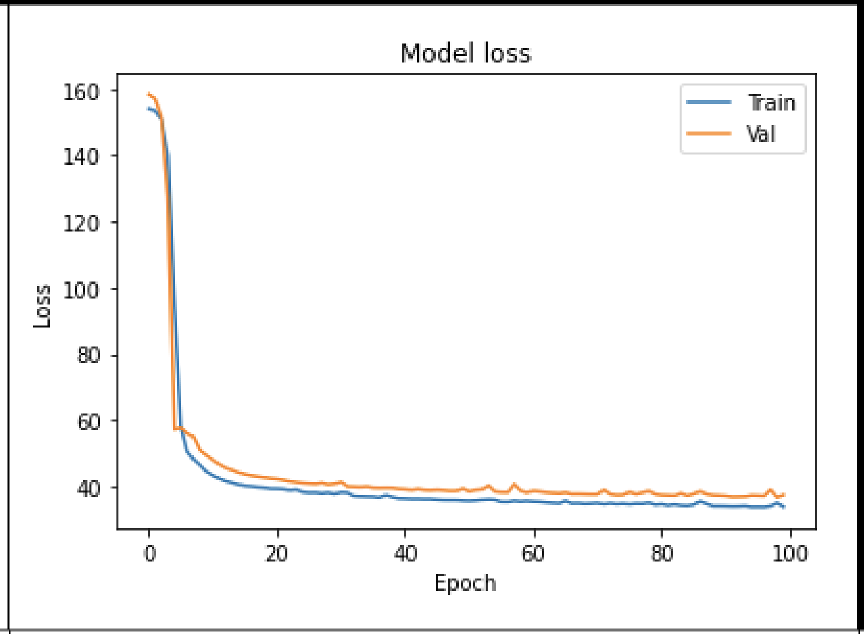


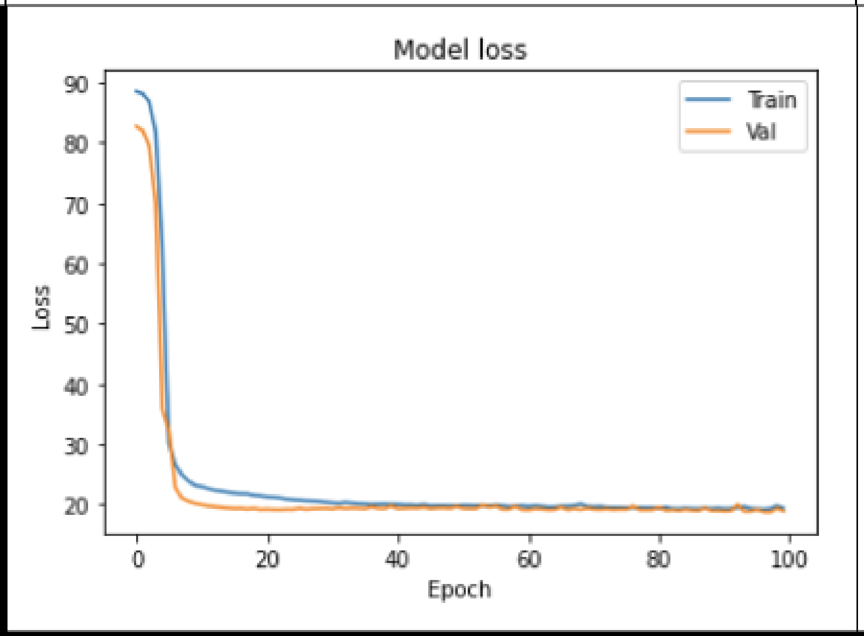


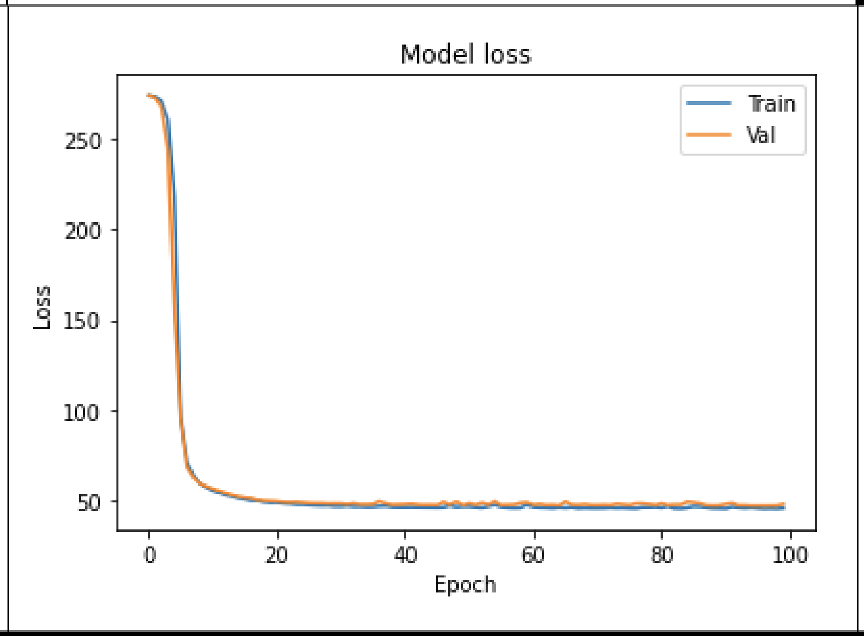
DNN LOSS GROUP 1 – 6

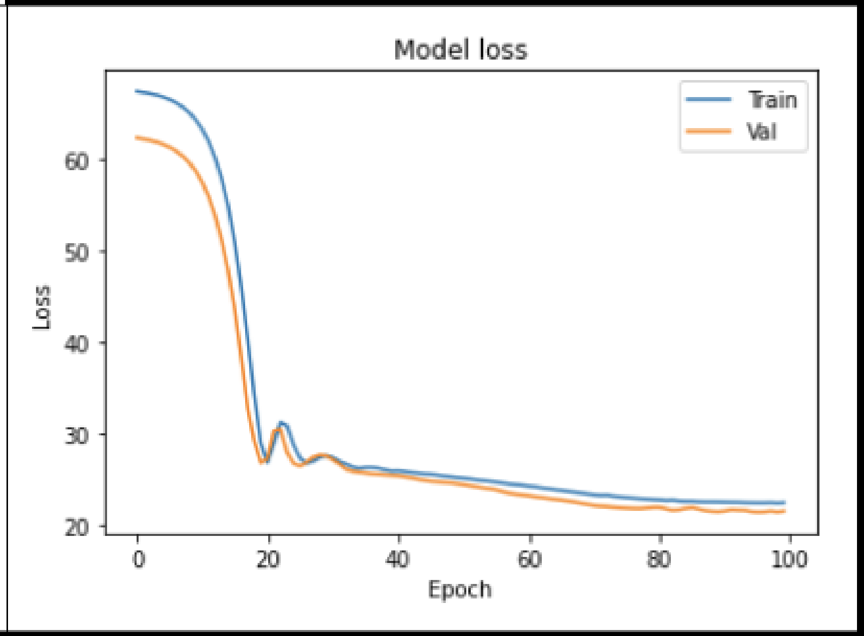






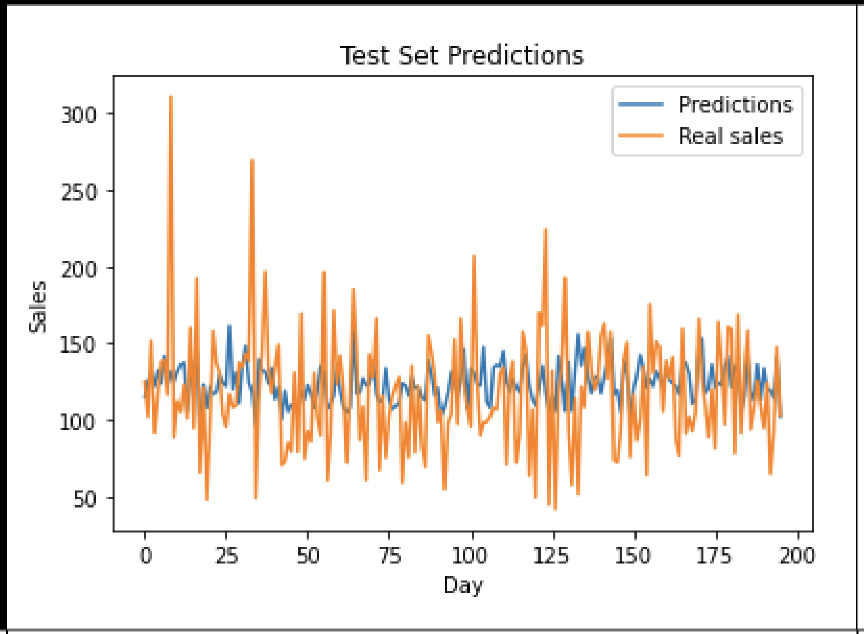


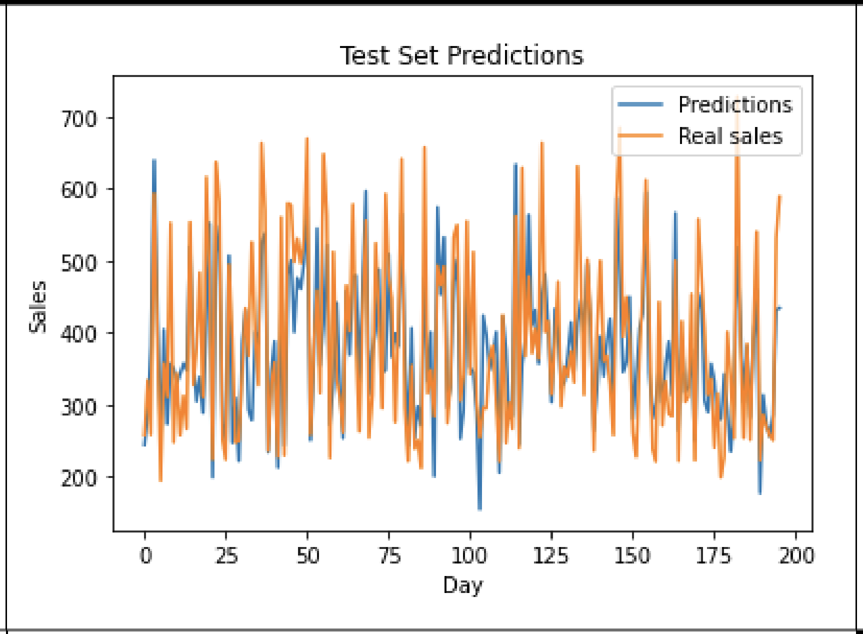


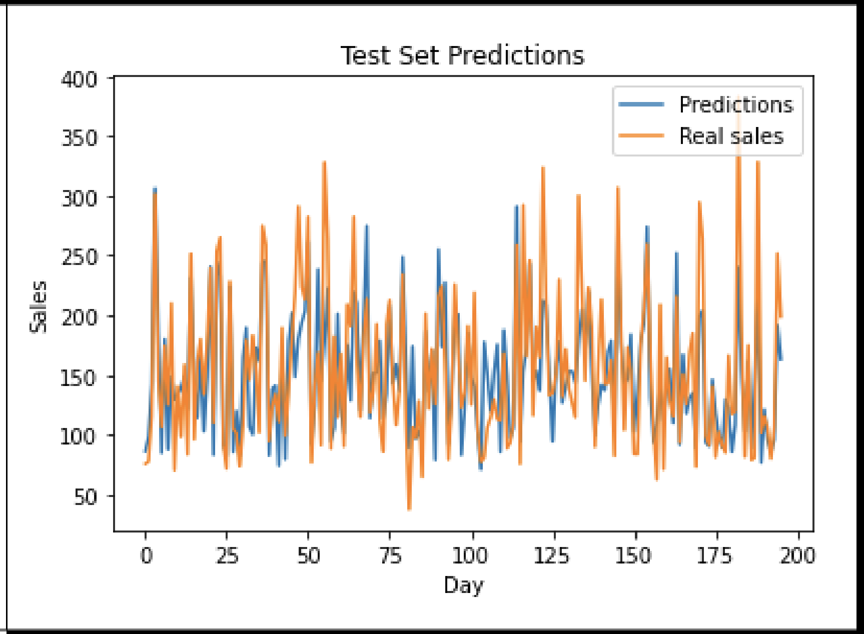


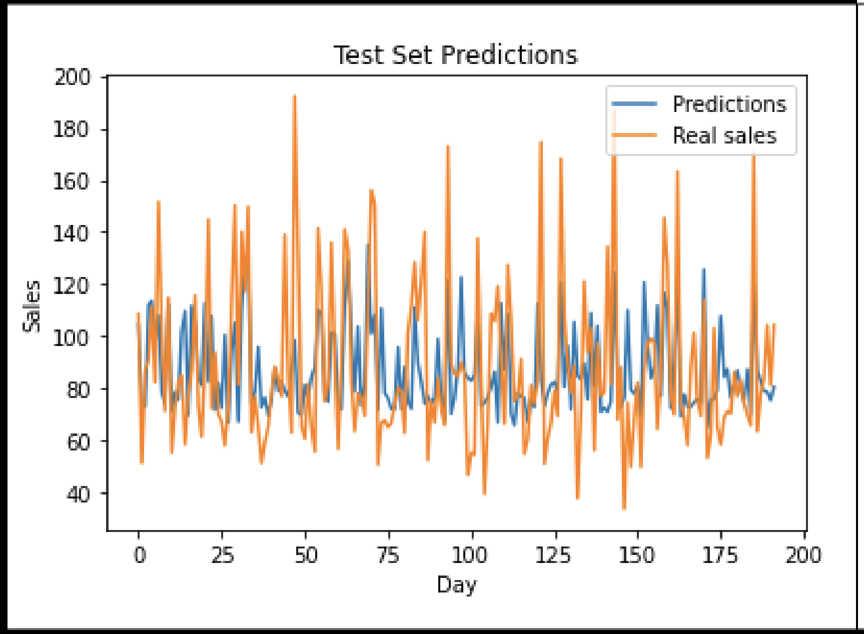
DNN MAE GROUP 1 – 6

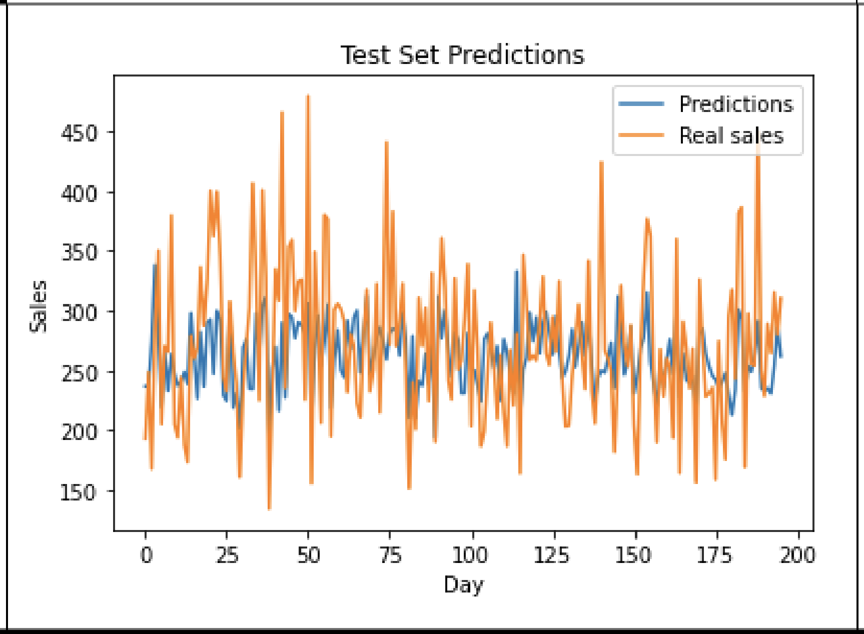
08

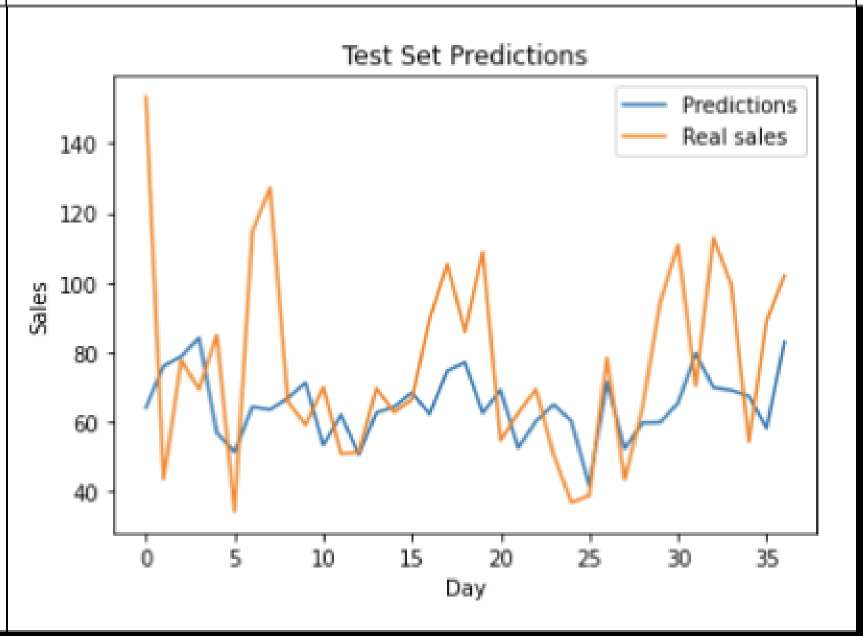




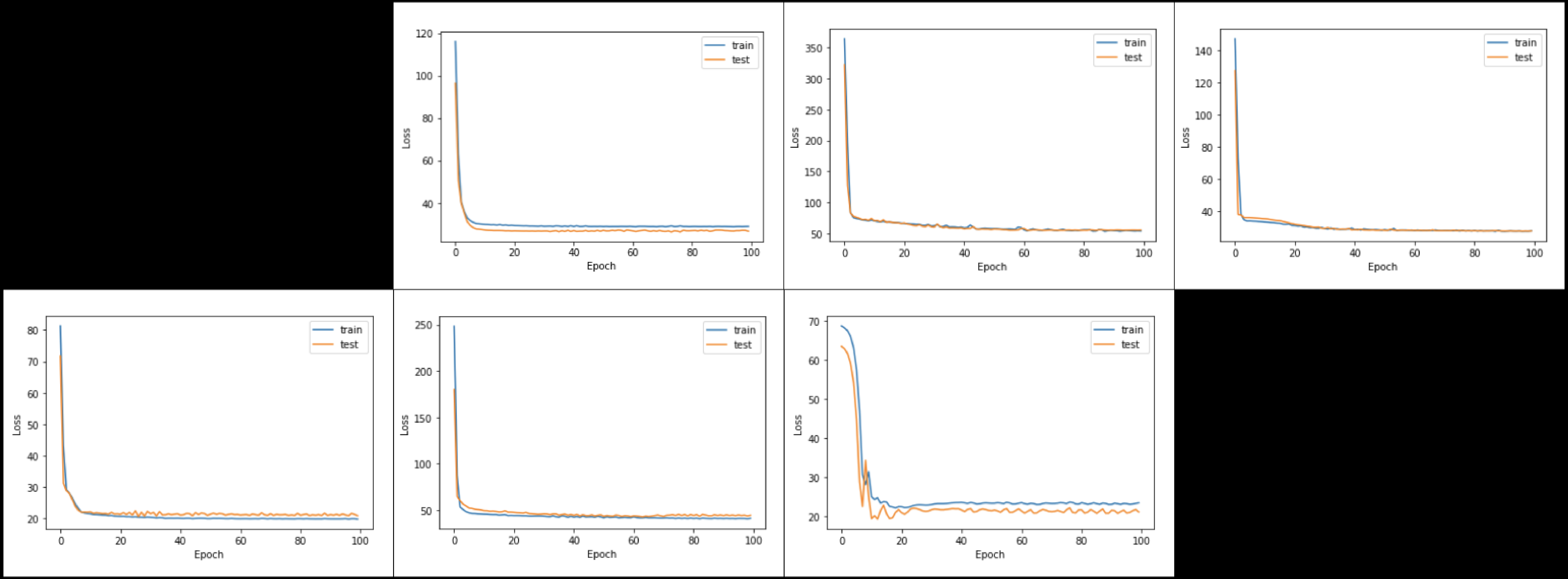




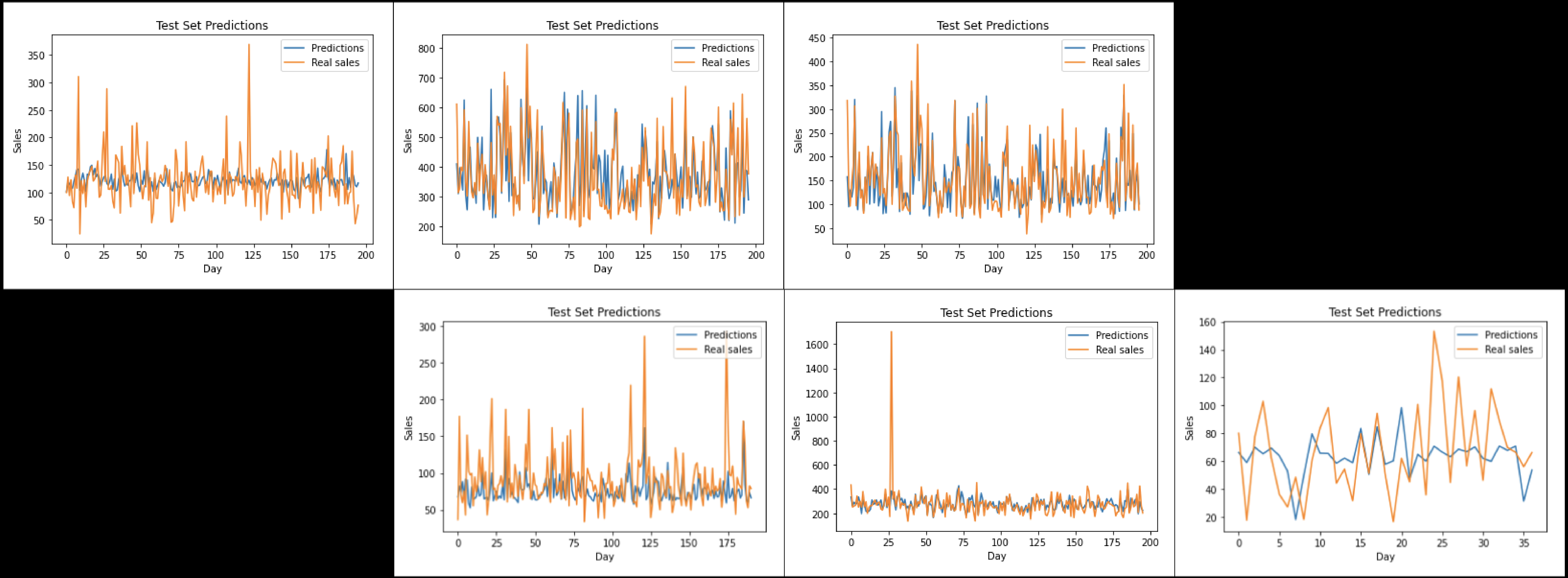




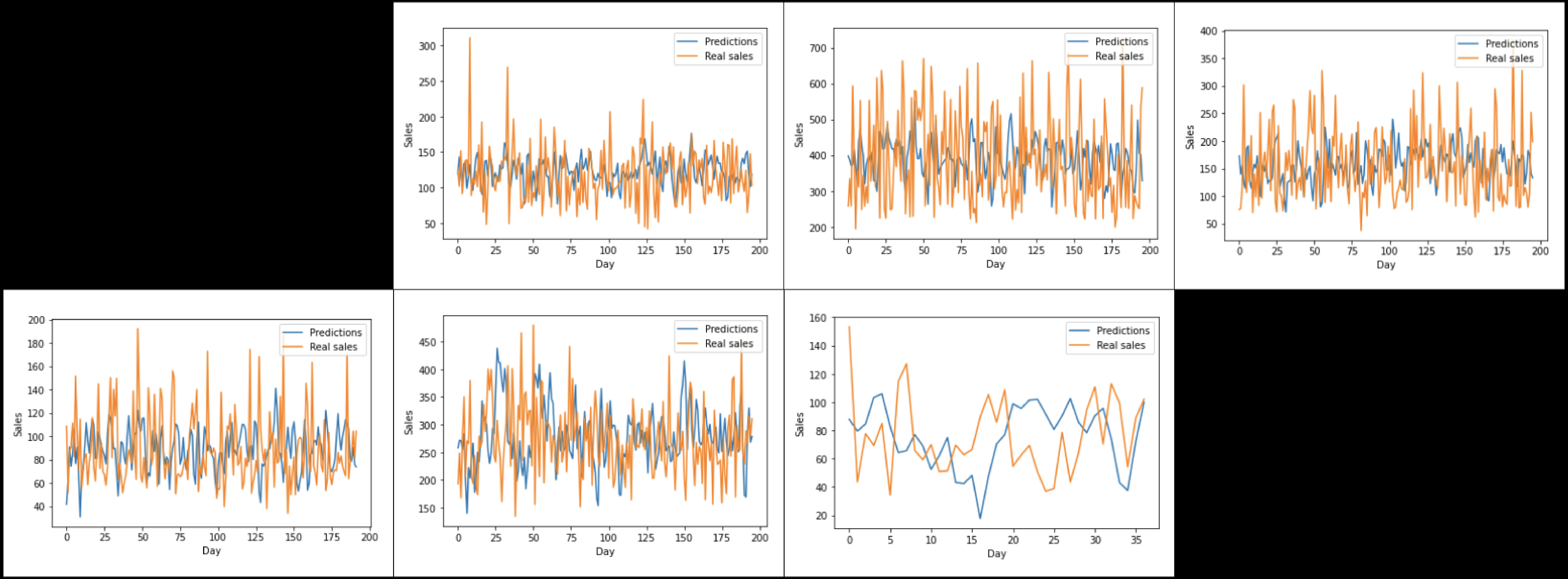
LSTM LOSS GROUP 1 – 6



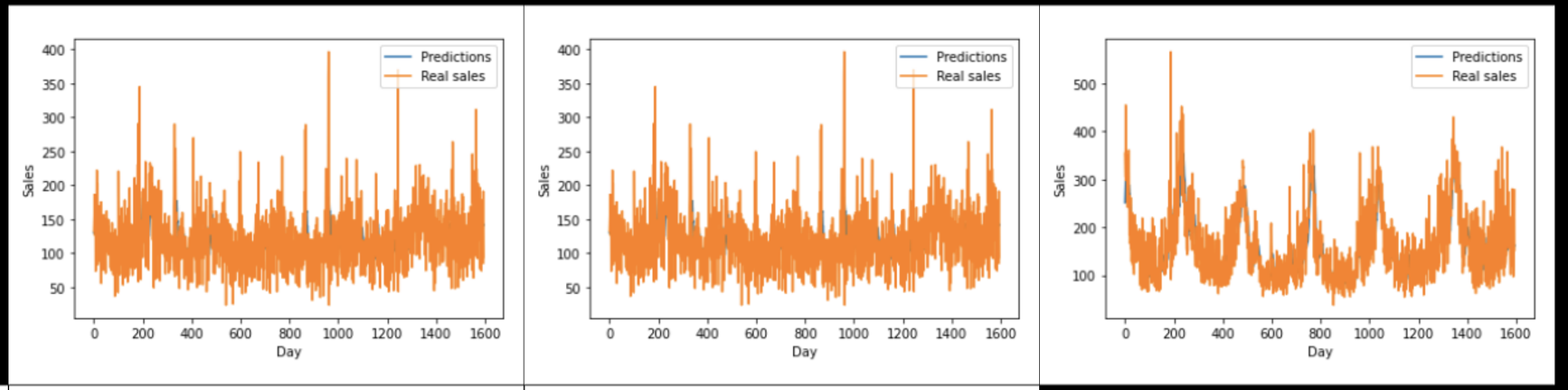
LSTM PREDICTIONS GROUP 1 – 6

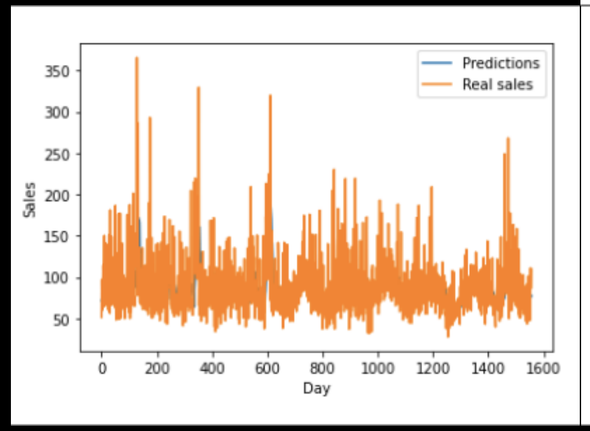


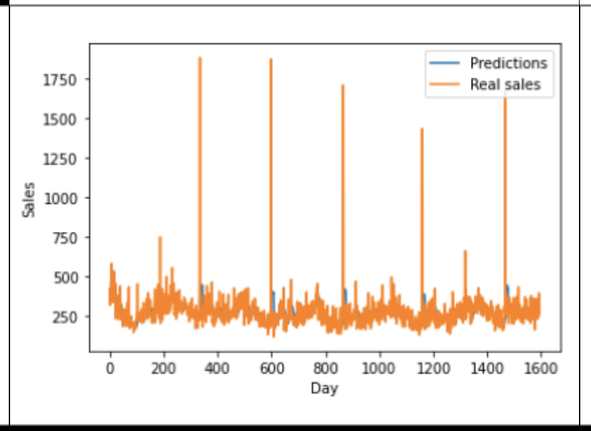
FOURIER MAE GROUP 1 – 6

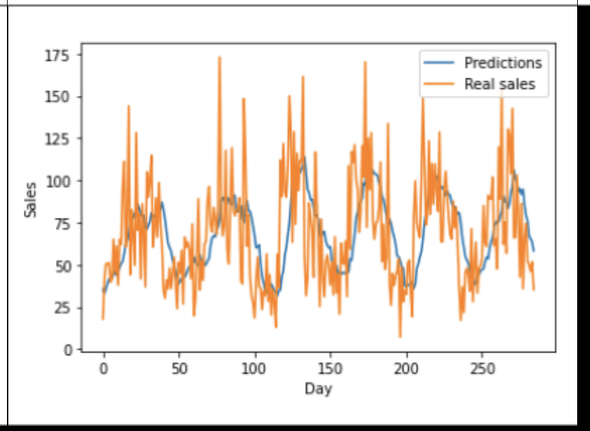


MOVING AVERAGE GROUP 1 – 6









MODEL	MAE 01	MAE 02	MAE 03	MAE 04	MAE 05	MAE 06	MAE AVERAGE
DNN	31,9	128,72	65,28	26,41	55,62	23,79	55,2866667
LSTM	33,22	132,83	69,83	28,19	68,12	27,15	59,89
FOURIER	33,66	114,16	58,58	27,86	65,56	28,11	54,8216667
MOVING AVERAGE	34,41	127,62	70,34	26,72	66,35	30,61	59,3416667

A project by

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Github

BakerySalesPrediction_DeepLearningFromScratch_opencampusSH

Thank you.