ML LAB Report

Registration Number: 2013331020, 2013331054

Dataset: Fake News Detection

Dataset Overview: The dataset contains data about real and fake news articles. The articles are classified into “REAL” and “FAKE” classes. We have done some preprocessing of the data.

Method:

We have applied following methods:

- Convolutional Neural Network (CNN)
- Multilayer Perceptron (MLP)
- K-Nearest Neighbors (k-NN)
- Logistic Regression

Result:

- CNN = 56.25 % (after 3100 steps, the training is still on going and the accuracy level is increasing)
- k-NN = 54.23%
- MLP = 53.69 %
- Logistic Regression = 51.2 %

Parameters:

CNN:

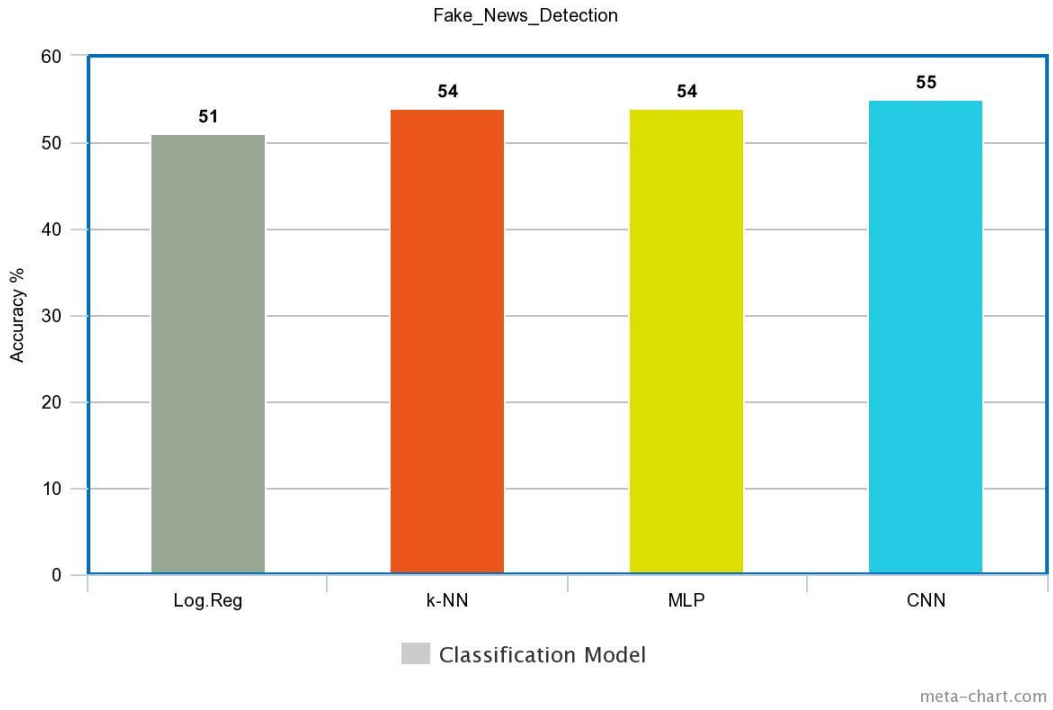
ALLOW_SOFT_PLACEMENT=True, BATCH_SIZE=64, CHECKPOINT_EVERY=100, DEV_SAMPLE_PERCENTAGE=0.01, DROPOUT_KEEP_PROB=0.5, EMBEDDING_DIM=128, EVALUATE_EVERY=100, FILTER_SIZES=3,4,5, L2_REG_LAMBDA=0.0, LOG_DEVICE_PLACEMENT=False, NEGATIVE_DATA_FILE=./data/rt-polaritydata/rt-polarity.neg, NUM_CHECKPOINTS=5, NUM_EPOCHS=200,

NUM_FILTERS=128, POSITIVE_DATA_FILE=./data/rt-polaritydata/rt-polarity.pos

MLP: solver= 'lbfgs', alpha=1e-5, hidden_layer_sizes=(12,), random_state=1

k-NN: algorithm='auto', leaf_size=50, metric='minkowski'

Log.Regression: fit_intercept=True, C = 1e15



Dataset: Stock Market Prediction

Dataset Overview: The dataset contains the each day stock market information about 600 company for four years.

Method:

We have applied following methods:

- Lasso Regression Model
- LassoCV Regression Model
- ElasticNet Regression Model
- LassolarsCV Regression Model
- RidgeCV Regression Model

Result:

- Lasso = 46.27 %
- LassoCV = 46.001 %
- ElasticNet = 46.27 %
- LassolarsCV=44.54%
- RidgeCV=48.66%

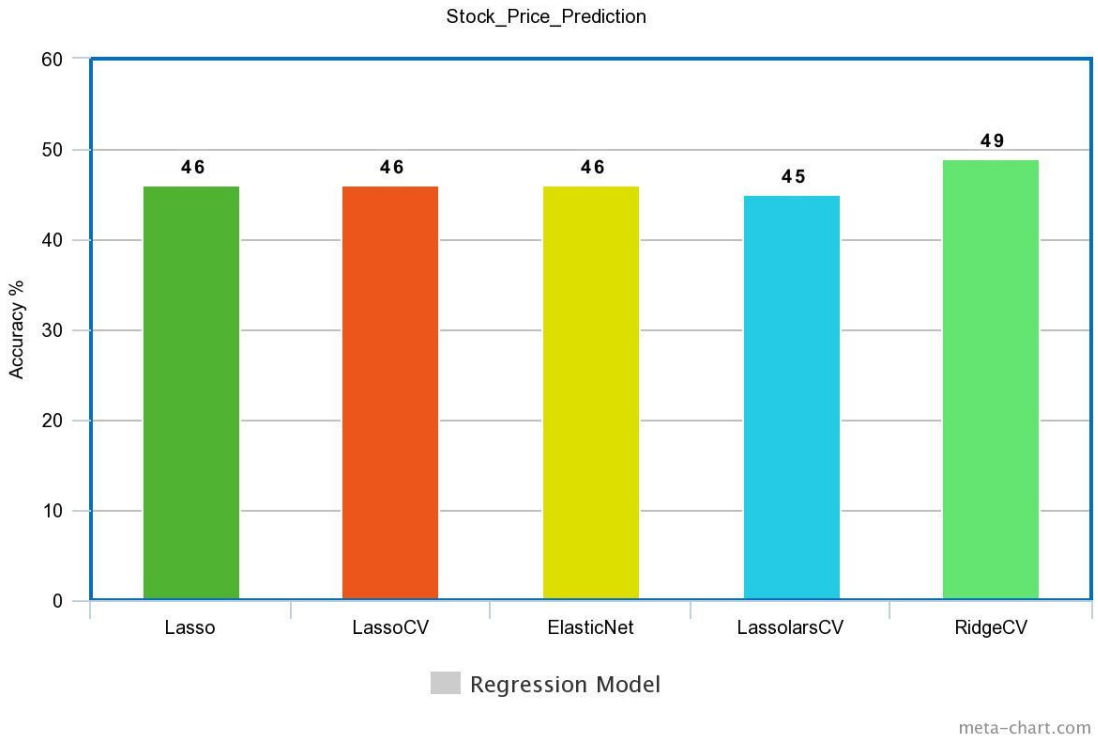
Parameters:

Lasso: All the parameters are kept with the default Value.

LassoCV: All the parameters are kept with the default Value.

ElasticNet: l1_ratio=1, Other parameters are kept with the default Value.

LassolarsCV: All the parameters are kept with the default Value.



Dataset: Apartment Price Prediction

Dataset Overview: The dataset contains the Apartment information and their prices.

Method:

We have applied following methods:

- Lasso Regression Model
- Linear Regression Model
- LassoCV Regression Model
- ElasticNet Regression Model
- LassolarsCV Regression Model
- RidgeCV Regression Model

Result:

- Lasso = 70.69 %
- Linear Regression= 70.69%
- LassoCV = 52.35 %
- ElasticNet = 70.69%
- LassolarsCV=70.7%
- RidgeCV=70.69%

Parameters:

Linear Regression: All the parameters are kept with the default Value

Lasso: All the parameters are kept with the default Value.

LassoCV: All the parameters are kept with the default Value.

ElasticNet: l1_ratio=1, Other parameters are kept with the default Value.

LassolarsCV: All the parameters are kept with the default Value.

RidgeCV: alphas=(0.2, 2.0, 20.0), Other parameters are kept with the default Value.