**Faculty of Computer Science and Artificial Intelligence Helwan university‏**

**Selected-2**

Team number: **21**

**الاسم:** رحيم احمد موسي

**ID:** 202000318

**الاسم:** ايمن شوقي محمد

**ID:** 202000181

**الاسم:** حامد سامي حميدة

**ID:** 202000253

**الاسم:** يحيي طارق محمد

**ID:** 202001058

**الاسم:** بكر ابو حسيبة ذكي

**ID:** 202000206

**الاسم:** حازم احمد سعد حامد

**ID:** 202000243

**Paper Details**

1. **Paper Citation**

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1. **Dataset Used**

GTSRB (German Traffic Sign Recognition Benchmark) dataset

1. **the implemented algorithms**

**they used cnn algorithm:** two convolutional layers, one pooling layer, dropout layer, flattening layer, dense layer, again a dropout layer and finally the dense layer.

1. **The results**

The accuracy achieved on the test dataset is 93%.

**Project Description Document**

**A) General information on dataset**

# Name of dataset: Traffic Signs Preprocessed

# Link of the dataset: https://www.kaggle.com/datasets/valentynsichkar/traffic-signs-preprocessed

**Number of classes and their labels:**

There are 43 classes (+10000 image) and the labels are

['Speed limit (20km/h)', 'Speed limit (30km/h)', 'Speed limit (50km/h)', 'Speed limit (60km/h)', 'Speed limit (70km/h)', 'Speed limit (80km/h)', 'End of speed limit (80km/h)', 'Speed limit (100km/h)', 'Speed limit (120km/h)', 'No passing', 'No passing for vehicles over 3.5 metric tons', 'Right-of-way at the next intersection', 'Priority road', 'Yield', 'Stop', 'No vehicles', 'Vehicles over 3.5 metric tons prohibited', 'No entry', 'General caution', 'Dangerous curve to the left', 'Dangerous curve to the right', 'Double curve', 'Bumpy road', 'Slippery road', 'Road narrows on the right', 'Road work', 'Traffic signals', 'Pedestrians', 'Children crossing', 'Bicycles crossing', 'Beware of ice/snow', 'Wild animals crossing', 'End of all speed and passing limits', 'Turn right ahead', 'Turn left ahead', 'Ahead only', 'Go straight or right', 'Go straight or left', 'Keep right', 'Keep left', 'Roundabout mandatory', 'End of no passing', 'End of no passing by vehicles over 3.5 metric tons']

**The total number of samples in the datasets and the size of each:**

The total number of samples is (+104000) and the size of each is 32x32.

**B) Implementing details**

**The total number of samples used in training, validating, and testing:**

Number of samples in training is 86989 and validation is 4410 and testing is 12630 with a ratio of ~85% training ,~15% testing and ~5% validation.

**Block Diagram:**

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**Hyperparameters:**

learning rate : started from .1 and changes with every epoch

epochs: 20

batch size: 128

**C) RESULT DETAILS:**

We used the accuracy measure and on training it was scoring ~98%, on validation it scored ~97% and on testing it scored ~95%.

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