**CSE541: - Computer Vision**

**Weekly Report - 4**

**Section Number - 1**

**Group Name: - string the\_boys;**

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**Road sign recognition system**

Task performed during the week:

* Write up the results and conclusions of the project for presentation.
* Conduct experiments to compare the performance of the CNN model with alternative approaches.
* Investigate the use of object detection algorithms such as YOLO or Faster R-CNN for road sign detection.
* Finding areas for more development, a study of the model's erroneous positive and false negative predictions was done.
* used a pre-trained CNN model as a feature extractor for traffic sign identification to examine the use of transfer learning.
* investigated the application of ensemble learning for increased accuracy by mixing different CNN models.
* Tried to understand how we can imply deep learning layered architecture more optimally to improvise the performance .

Outcomes of the tasks performed:

* Using data augmentation and fine-tuning with optimal hyperparameters, the CNN model's performance was improved.
* Analyzed incorrect predictions to learn more about the model's performance and to find possible areas for further development.
* examined different methods for detecting traffic signs, including transfer learning and group learning.

Tasks to be performed in the upcoming week:

* As suggested by the sir we will try to process the image without converting it into gray-scale.
* Currently in our dataset, the number of images in every class are highly imbalanced so we will find a way to deal with this problem.
* We will try to understand the data set in more detail by studying the images in more depth and also figuring out the other details like where they are taken from etc .