Progress Report

Date of Meeting: 28.11.2022

Learned:

1. How neural networks work (**weights** and **biases**).
2. How convolutional neural networks work (**Filter**, **Padding**, **Stride**, **Pooling-layer**, **Flattening**).
3. **Batches**, **Layers**.
4. **Activation Functions** (Unit step, Sigmoid, ReLu, Softmax).
5. Functionality of **optimizations**.
6. **Hyper-parameters** like Number of Layers, Number of hidden units per layer, Learning Rate, Dropout, etc and how to tune them using **Hyperas.**

Project Progress: Loaded dataset.

Problem: How to design the architecture of a CNN. (Why, when and which layer we should add.)

Next: Develop a CNN architecture.

Date of Meeting: 11.1.2023

Learned:

1. Build linear regression model from scratch.
2. Build L layer neural network with sigmoid and relu from scratch.

Next:

1. Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization

Date of Meeting: 11.3.2023

Learned:

3. Different types of CNN architectures.
4. Implementing the CNN architectures using pytorch and train and test them.
5. Build web app using implementing the pytorch models.

Project Progress: Trained CNN models using pytorch and built a web app to compare the trained pytorch CNN models.
Github: https://github.com/shanjidhasan/distracted-driver-detection