EXPERIMENT 1

My seed value:- 2022
Device:- CPU

EXPERIMENT 2

Batch size used:- 32
Overall dataset size:- 9778
Training Dataset Size:- 6844
Validation Dataset Size:- 1467
Test Dataset Size:- 1467

EXPERIMENT 3

Convolutional Layers:
Layer 1:
- Number of kernels: 32
- Kernel size: (3, 3)
- Activation function: ReLU
- Input shape: (32, 32, 3) (RGB image)
- Padding: Valid (no padding)
- Stride: Default (1x1)
- Output shape: (30, 30, 32)

MaxPooling Layer 1:
- Pool size: (2, 2)
- Stride: Default (2x2)
- Output shape: (15, 15, 32)

Convolutional Layer 2:
- Number of kernels: 64
- Kernel size: (3, 3)
- Activation function: ReLU
- Padding: Valid (no padding)
- Stride: Default (1x1)
- Output shape: (13, 13, 64)

MaxPooling Layer 2:
- Pool size: (2, 2)
- Stride: Default (2x2)
- Output shape: (6, 6, 64)

Fully Connected Layers:-

Fully Connected Layer 1:
- Neurons: 128
- Activation function: ReLU

Fully Connected Layer 2:
- Neurons: 64
- Activation function: ReLU

Output Layer:-
- Neurons: 1 (for regression)
- Activation function: None (linear activation for regression)

REGULARIZATION:- Dropout (dropout rate of 0.5)

LOSS FUNCTION:- Mean Squared Error (MSE)(for regression task)

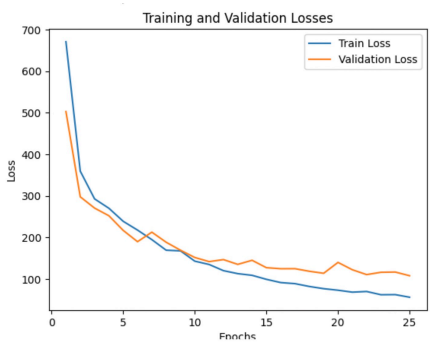
OPTIMIZER:- Adam Optimizer with Learning rate: 0.001

```
[ ]
```

Layer (type)	Output Shape	Param #
conv2d_8 (Conv2D)	multiple	896
max_pooling2d_8 (MaxPooling2D)	multiple	0
conv2d_9 (Conv2D)	multiple	18496
max_pooling2d_9 (MaxPooling2D)	multiple	0
flatten_4 (Flatten)	multiple	0
dense_12 (Dense)	multiple	295040
dropout_4 (Dropout)	multiple	0
dense_13 (Dense)	multiple	8256
dense_14 (Dense)	multiple	65

```
Total params: 322753 (1.23 MB)
Trainable params: 322753 (1.23 MB)
Non-trainable params: 0 (0.00 Byte)
```

EXPERIMENT 4



EXPERIMENT 5