**Video Link:** <https://drive.google.com/file/d/10HfDMWAvMAIRe6mkhypduAyxE89rM8-c/view?usp=sharing>

GitHub:

# **Task 1:**

A screenshot of a computer program

AI-generated content may be incorrect.

**Explanation:**

This CNN architecture begins with a 32-feature map (3×3) convolution layer and ReLU activation followed by dropout. The pattern repeats again with 64 and 128 feature maps in another convolutional layer and max pooling. The feature maps are then flattened and input into fully connected layers of 1024 and 512 units, with ReLU and dropout to prevent overfitting. Finally, a 10-unit fully connected output layer with SoftMax activation provides class probability for classification.

**Output:**

The model's performance improved, with accuracy rising from 68.23% to 72.31%.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

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# **Task 2:**

A screen shot of a computer code

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**Explanation:**

1. The first four images were selected from the test data set.

2. The predicted classes were compared with the original labels:

if they were identical, "correct prediction" was printed; otherwise, "incorrect prediction" was displayed.

**Output:**

A screenshot of a computer program

AI-generated content may be incorrect.

The model successfully predicts the classes for each of the four images.

# **Task 3:**

**Explanation**:

Two plots are created for loss and accuracy of both training and validation using the model's history object.

**Output**:

A graph of loss and model loss

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