Using device: CUDA

Task execution time: 0.37 seconds

Completed Tasks:

Task 1.1: Load CIFAR-10 Dataset ✓

Task 1.2: Visualize CIFAR-10 Samples ✓

Task 1.3: Convert to Grayscale ✓

Task 2.1: Extract SIFT Features ✓

Reset (Clear Task)

CIFAR-10 Image Classification with BoVW and CNN

This application implements image classification on the CIFAR-10 dataset using:

- Bag of Visual Words (BoVW) model with SVM classifier
- Deep Learning approach with ResNet-18 CNN
- Data augmentation techniques

Follow the tasks step by step using the dropdown menu.

Select a task to run:

Task 2.1: Extract SIFT Features

Run Task

Task 2.1: Extract SIFT Features

 $\label{lem:number of images for feature extraction} \\$

100

5000

Feature extraction completed! Extracted 6724 SIFT descriptors.

Average number of keypoints per image: 13.45