EEP 596A
Computer Vision: Classical and Deep Methods

2025 Fall

Homework 3 Report

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Contents

Task 1 – Basic tensor arithmetic (saturation)

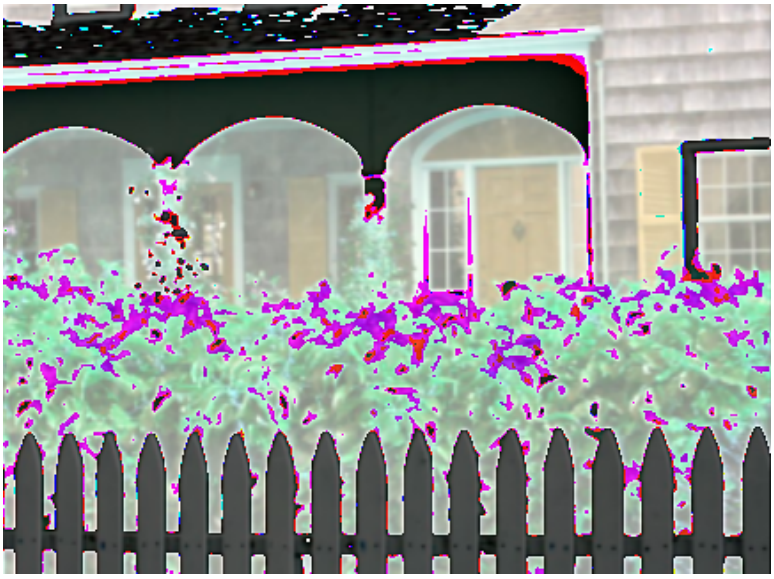

Figure 1: Task 1 (1a/1b/1c): Basic tensor arithmetic. Shown: Task 1c — saturation arithmetic producing uint8 result after adding 100 to each channel

Task 2 – Add Gaussian noise

Figure 2: Task 2: Image with additive Gaussian noise (mean=0, sigma=100) — displayed as float32 normalized

Task 3 – Image normalization

Figure 3: Task 3b: Normalized using ImageNet means/stds

Task 4 – Dimension rearranging

Figure 4: Task 4: Tensor rearranged to NxCxHxW (N=1,C=3,H,W shown visually)

Task 5 – Stride convolution with Scharr_x filter

Figure 5: Task 5: Grayscale image convolved with Scharr_x and stride=2 result