Lab Report-01

Course title: Digital Image Processing Laboratory

Course code: CSE-406

4th Year 1st Semester Examination 2023

Date of Submission: 30 August 2024

Submitted to-

Dr. Morium Akter
Professor

Dr. Md. Golam Moazzam
Professor

Department of Computer Science and Engineering
Jahangirnagar University
Savar, Dhaka-1342

Sl	Class Roll	Exam Roll	Name
01	408	202220	Sudipta Singha

Department of Computer Science and Engineering
Jahangirnagar University
Savar, Dhaka, Bangladesh

Lab Report Title

JPEG Image I/O and Display in Python

Introduction

In this lab, we will demonstrate the basics of reading a JPEG image file in Python, copying it to a new file, and displaying it. These tasks are essential in fields like image processing and machine learning, where handling image data efficiently is required. We will use Python's built-in file handling capabilities for reading and writing files in binary mode, and the Pillow (PIL) and matplotlib libraries for image processing and display.

Python code

```
from PIL import Image
import matplotlib.pyplot as plt

def read_and_output_jpeg(input_path, output_path):
    # Read the JPEG file in binary mode
    with open(input_path, 'rb') as input_file:
        image_data = input_file.read()

    # Write the same data to the output path
    with open(output_path, 'wb') as output_file:
        output_file.write(image_data)

    # Display the image using PIL and matplotlib
    img = Image.open(output_path)
    plt.imshow(img)
    plt.axis('off')  # Hide axes for better viewing
    plt.show()

# Example usage
if __name__ == "__main__":
    input_path = "input.jpg"    # Replace with your input file path
    output_path = "output.jpg" # Replace with your desired output file
    read_and_output_jpeg(input_path, output_path)
    print(f"File copied from {input_path} to {output_path}")
```

Output

Figure 1: