



Bangladesh Army University of Engineering & Technology (BAUET)  
Department of Computer Science & Engineering (CSE)

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# **DIGITAL IMAGE** **PROCESSING**

## **LAB MANUAL 4**

Spatial Filtering  
&  
Sharpening Spatial Filtering

Prepared By: Md. Sabbir Ejaz



## **DIGITAL IMAGE FUNDAMENTALS**

### **Lab Objectives**

This objective of this lab is to understand & implement

- 1) Smoothing Spatial Filters
- 2) Order Statistics Filters
  - a) Median
  - b) Max
  - c) Min
- 3) Sharpening Spatial Filters
- 2) The Laplacian

### **TASK 1**

Write a program to implement Smoothing Spatial filter and note the effects on given images.

### **TASK 2**

Write a program to implement order statistics filters and write down your observations.

### **TASK 3**

Write a program to implement “The Laplacian” and note the effects on given images.

### **TASK 4**

Use “The Laplacian” to exercise “High Boost Filtering” and write down your observations.

### **TASK 5**

Write a program to implement “Robert Cross Gradient Operator” and observe the changes on image.

### **TASK 6**

Write a program to implement “Sobel Operators” and observe the changes on image.