**AIM AND OBJECTIVES**
- To implement a platform for image viewing
- To develop a series of image processing techniques on the interface
- To increase the level of interactivity and convenience of the image viewer

**IMPLEMENTATION**
- Affine Transformation
- Enhancement
- Filter
- Color Processing
- Texture
**Affine Transformation**

General equation:
- \( X_{NEW} = S_{X1}X + S_{X2}Y \)
- \( Y_{NEW} = S_{Y1}X + S_{Y2}Y \)

**Scaling**

- \( X_1 = 1.5 \), \( X_2 = -0.5 \), \( y_1 = 0 \), \( y_2 = 1 \)

**Enhancement**

**Compression**

**Filter**

**Edge Detection**

- Prewitt
- Kirsch
- Sobel
**Color Processing**

Check the similarity of pixels by using the color distance equation below:

\[ \sqrt{(R_i - R_j)^2 + (G_i - G_j)^2 + (B_i - B_j)^2} \]

Merge similar color pixels until reaching the cluster size entered by users.

**Texture**

Texture can make an image becomes rougher.

**Overlay**

**Mosaic**

Advantages of this image viewer:

- Capable to display high resolution images
- Simple working algorithms
- Wide range of image processing techniques
- High level of interactivity and convenience