Ex. No: 9   Fuzzy Logic - Image Processing
Date:

Procedure for fuzzy Logic edge detection.

Step 1 : Set up the environment.

1) Open MATLAB: Ensure you have access to MATLAB with the image processing toolbox and fuzzy Logic toolbox installed.

Step 2 : Import and Convert image to Grayscale

1) Read the RGB Image.

2) Connect to Gray scale.

Step 3 : Convert Image to double - precision data

1) Convert to double.

Step 4 : Obtain image gradient.

1) Define Gradient filters.

2) Calculate Gradients.

3) Plot image gradients.

Step 5 : Define fuzzy Inference system (FIS) for edge detection.

1) Create FIS

2) Add Inputs

3) Define Membership function for Inputs

4) Add output

5) Define Membership functions for output.

6) Plot Membership functions.

Step6: Specify FIS rules

1) Add rules for FIS

Step7 : Evaluate FIS

1) Evaluate edge detection.

Step 8: Plot results.

1) Plot Original Grayscale Image.

2) Plot detected edges.

Result:

Thus Program was successfully executed and the O/P is verified.