Fuzzy Logic - Image Processing Exp. No: 9 morally constant Date:

Aim:

The arm of implementing fuzzy logic for edge detection to the nobustness and accuracy edge detection in images by handling uncertainities

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Procedure for fuzzy logie edge detection:

Open matlab: ensure you have access to matlab
with mage processing toolbox

Step 2: Emport & convert image to grayscale

1) Read the RGIB Drage

2) Connect to Grayscale.

Skep3. Convert image to double precision data

stepti: Obtain mage gradient

1) Define Gradient filten

2) Calculate Gradients

3) Plot Prage gradient.

Steps: Define fuzzy inference system (F13)

1) Create FIS

the program ries esterate upbAd(stree culput

3) Define membership feurction for inputs

4) Add output

51Define membership functions for outputs. 6 4 11 6) Plot membership function for outputs : 910E Step 6; specify Fis rule 1) Add rules for FIS Stept: Evaluate FIS application to classification with p 1) Evaluate edge detection 8/cp 9: Plot results ishu! 1) Plot ariginal Grayscale Image 2) Plot detected edger to and established in most from Altern neural network ringert Merclar Afration from number on up thippet mostplot lite pythot as plt The so medica the grid matelettle mile x non y hain = make\_vides (n\_samples = 200, notice 0 05) x west , y best = make ender ( N sound tes = 300) Notice to or Ens. scatterflot (x. hom (s. o) .x nom (:1), hus -y. nom) Pet title ( Traditate) () wall - tha if = MIP classified ( Max. iter aloco) ( men y rated v) If. I y-find & If predict (x test) fig. ax = ple. & ulp lots (11)

Result:

Thus the program was successfully executed

Ound the content was verified.