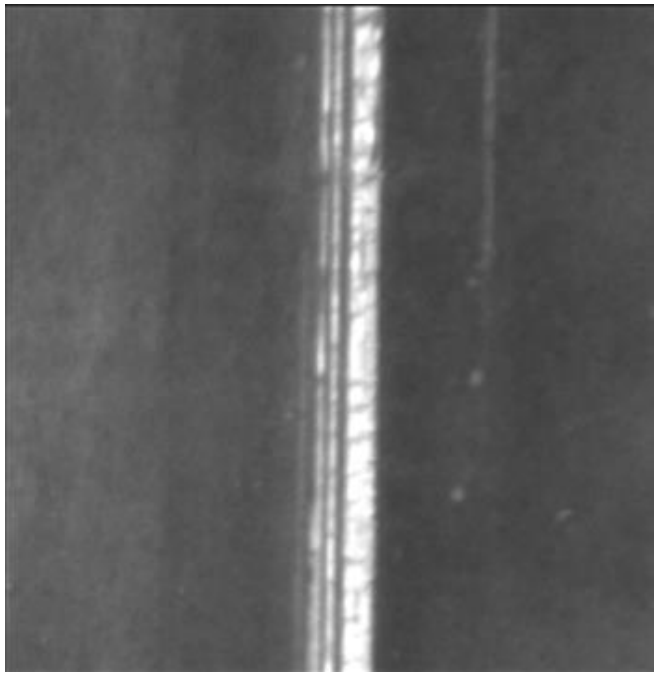
METALlIC DEFECT DETECTION

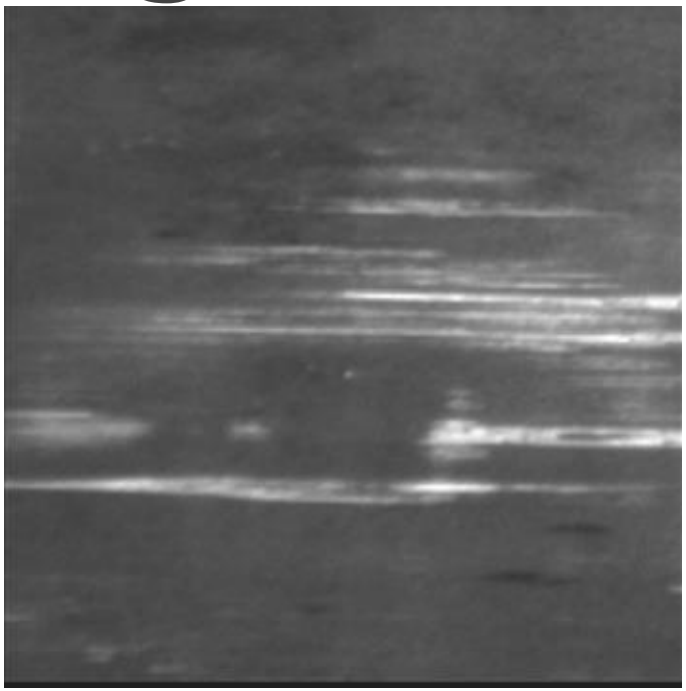
Udit Pramanik

Overview

- **Sc_Images**
  1. Method 1
  2. Method 2
  3. Method 3
  4. Comparision of methods for SC images

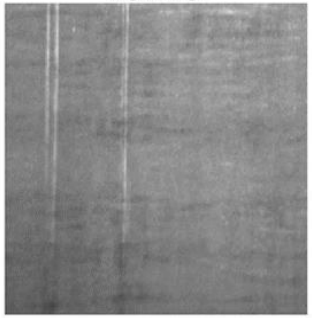
SC_ images



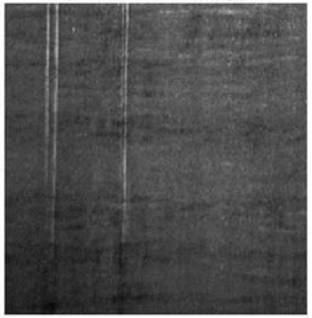


Method 1 for Sc(Worst Image)

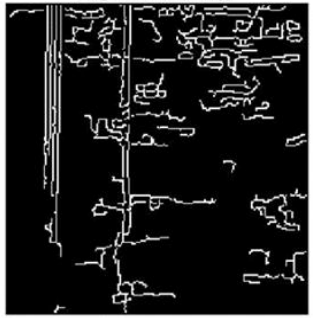
Original image



Shapened and Bridhtness adjusted



Edge Detection(Canny)



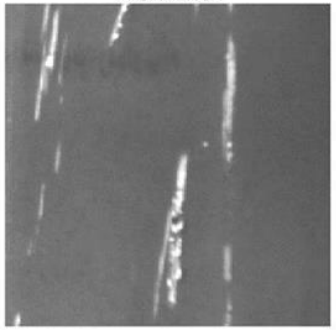
Convex Hull

Worst Image

Truth image

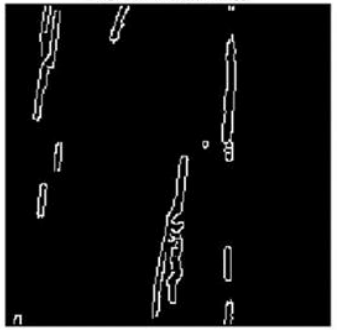
Method 1 for Sc(Best Image)

Original image



Shapened and Bridhtness adjusted

Edge Detection(Canny)

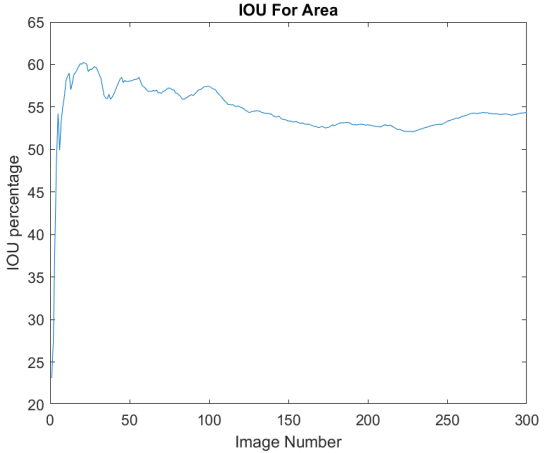


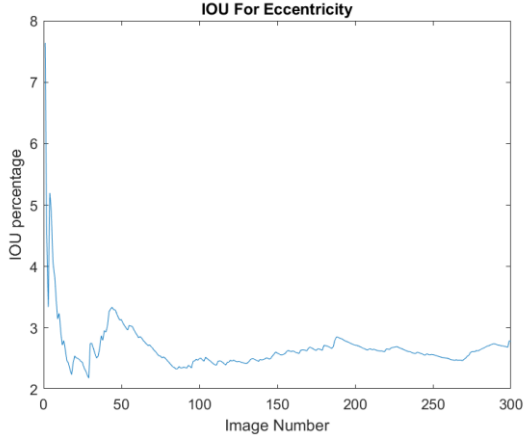
Convex Hull

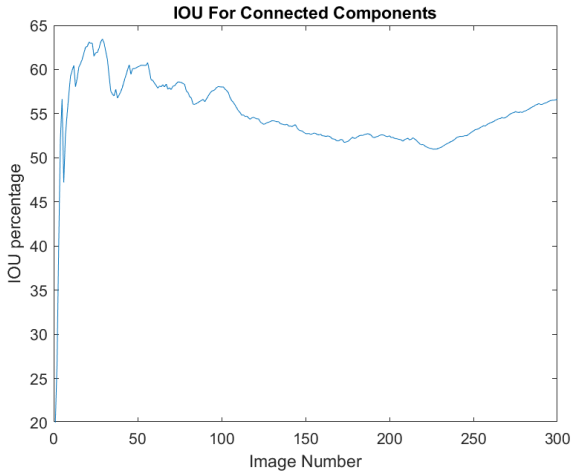
Best Image

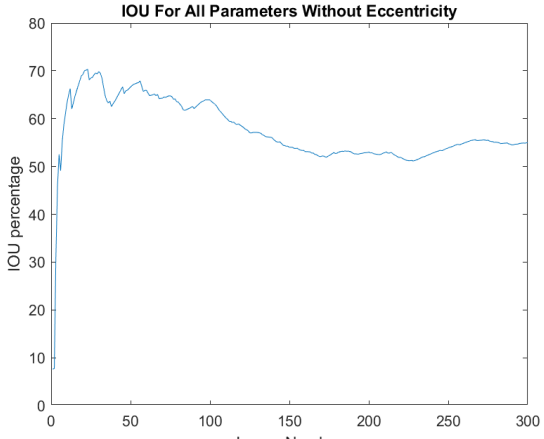
Truth image

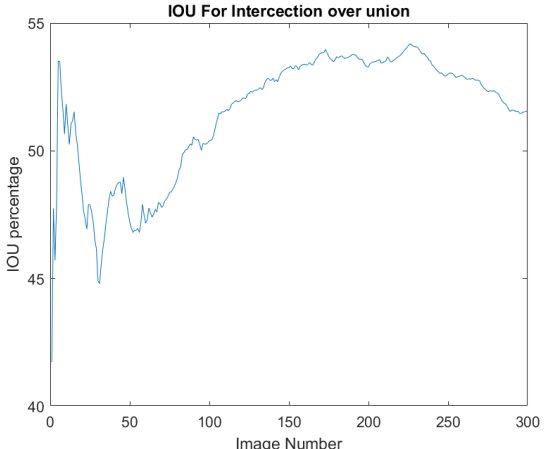
Comparative study

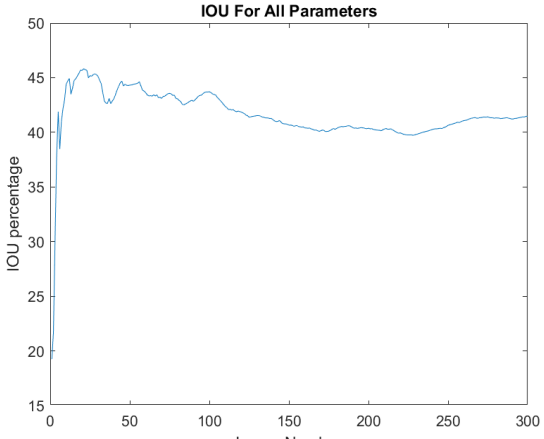




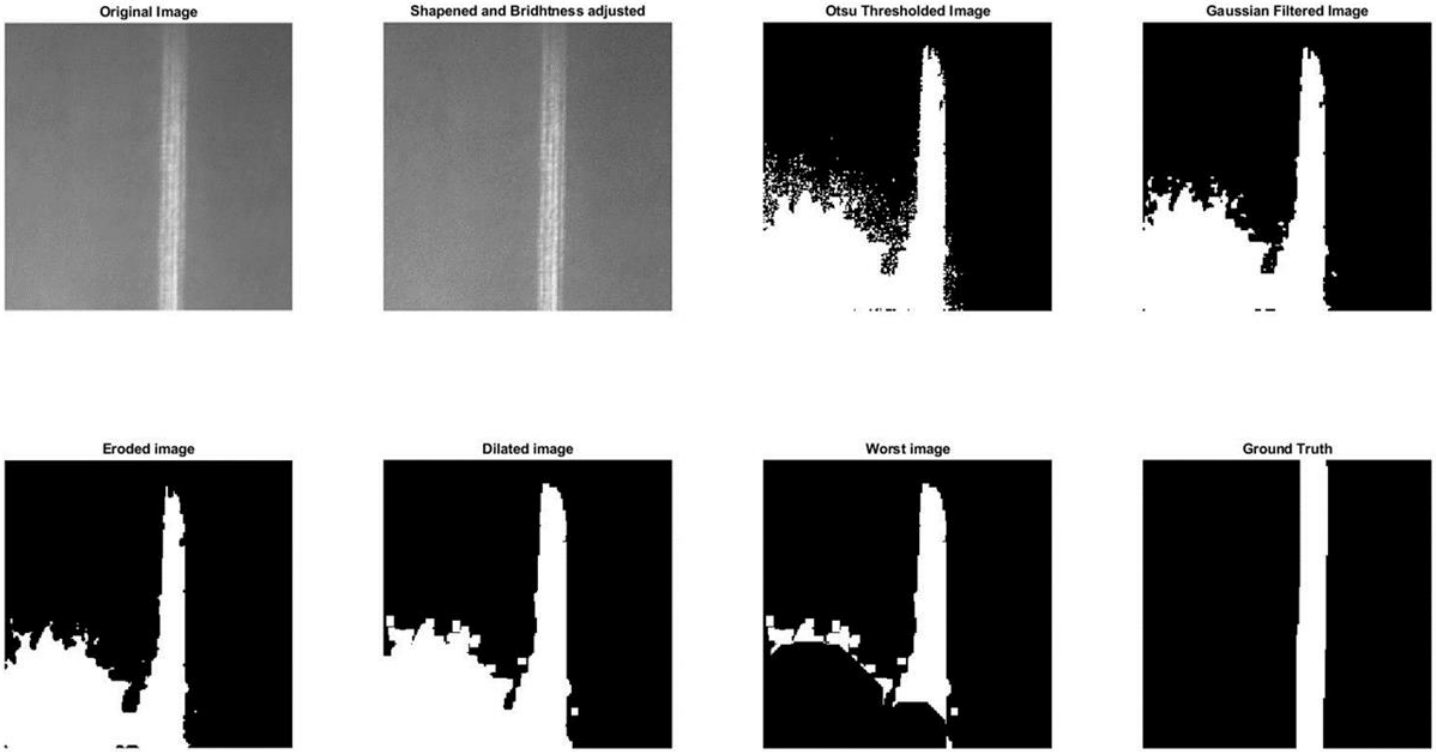




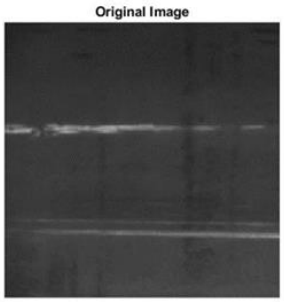


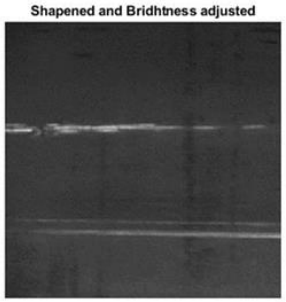


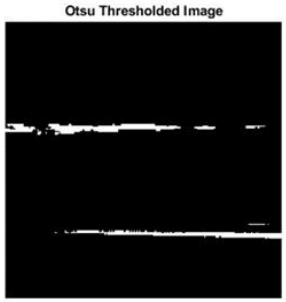
Method 2 for Sc_(Worst Image)

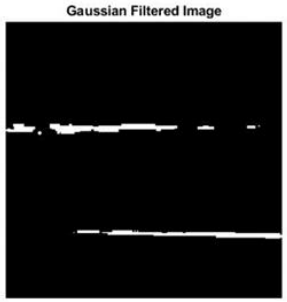


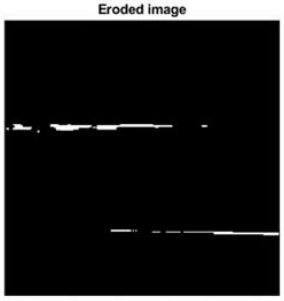
Method 2 for Sc(Best Image)

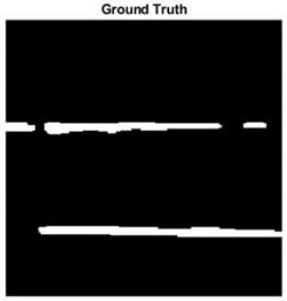




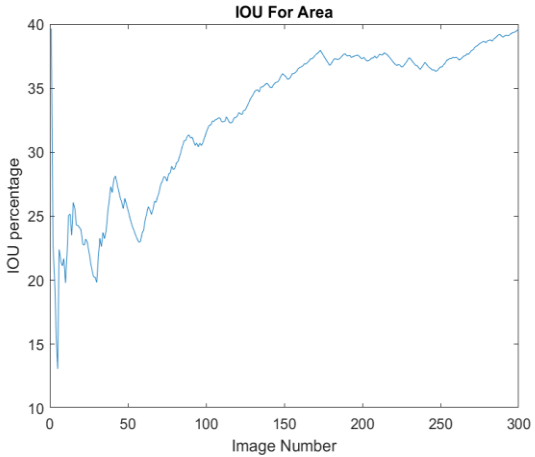


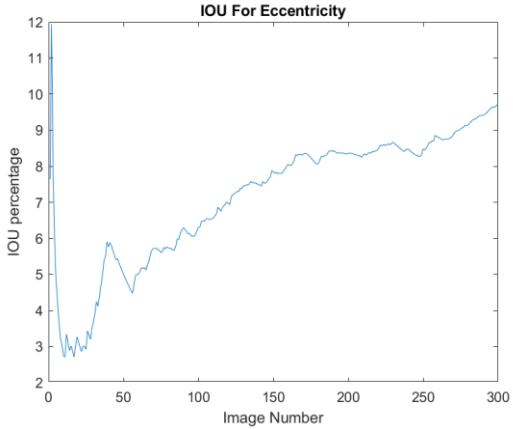


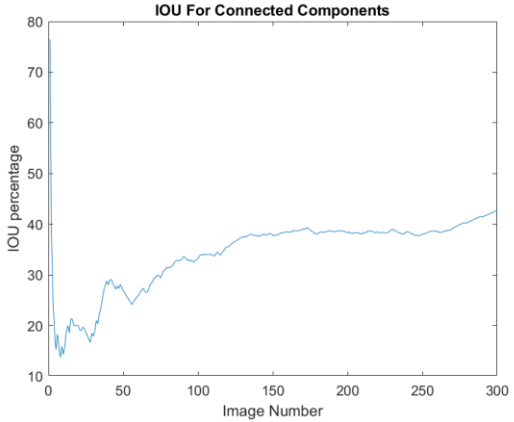


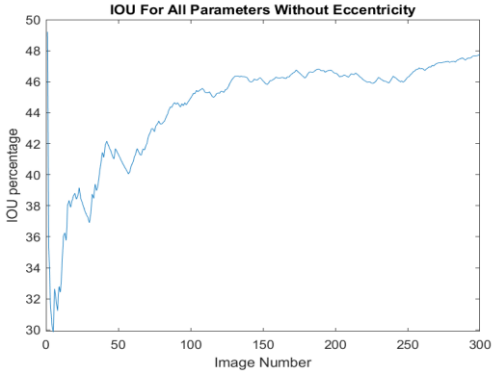


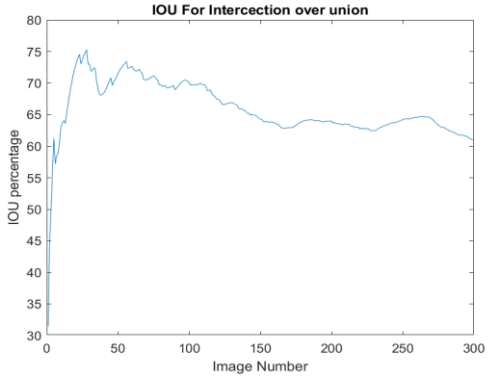
Comparative study

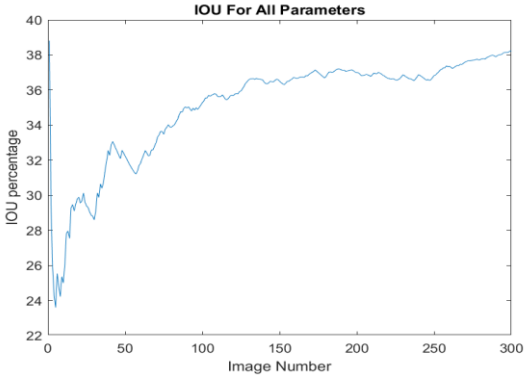






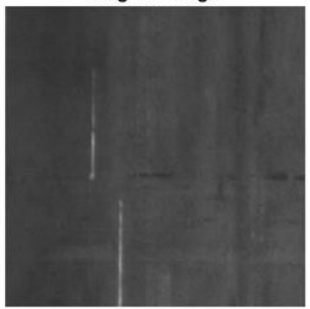




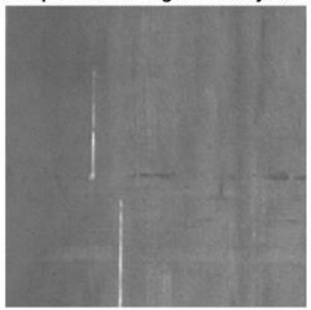


Method 3 for Sc_(Worst Image)

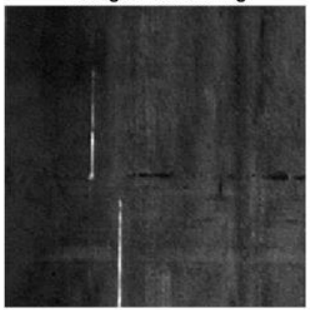
Original Image



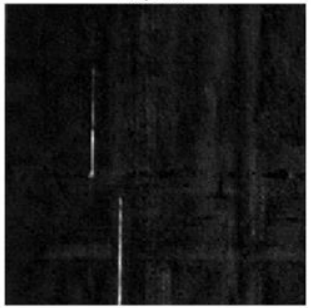
Sharpened and birghtness adjusted



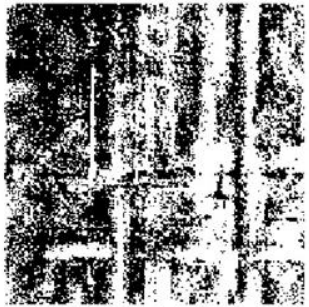
Histogram stretching



Top Hat



Otsu`s threshold

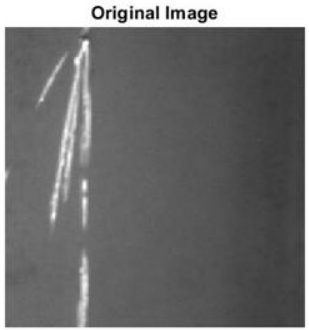


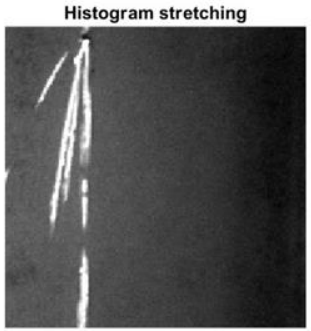
Eroded

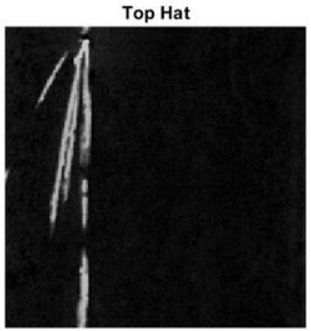
Final image(imfill)

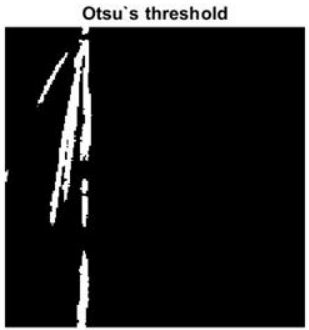
Ground Truth Image

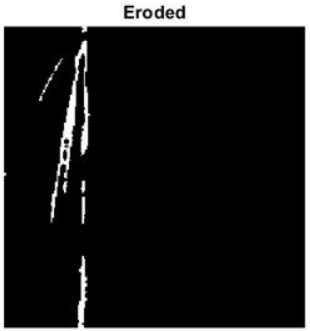
Method 3 for Sc_(Best Image)

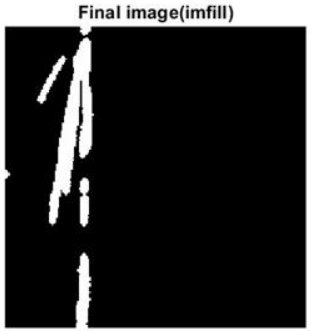


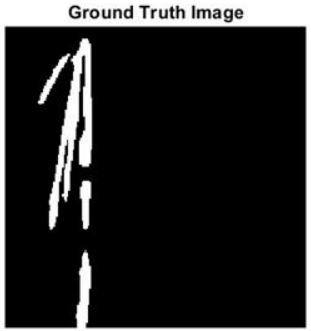


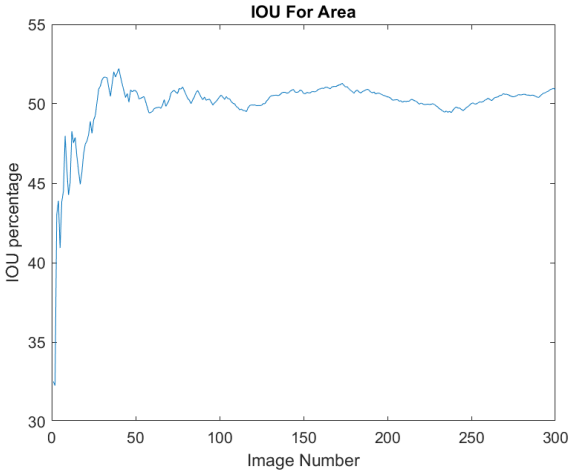


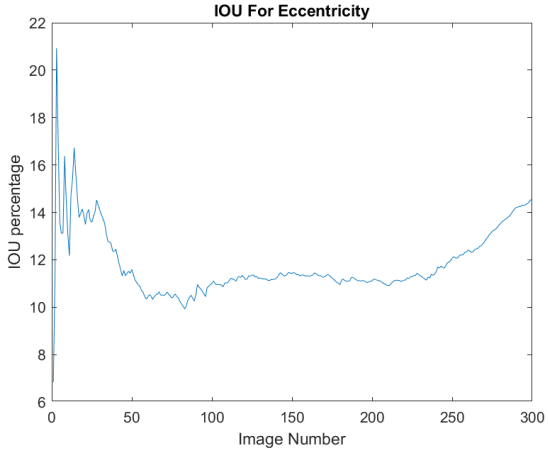


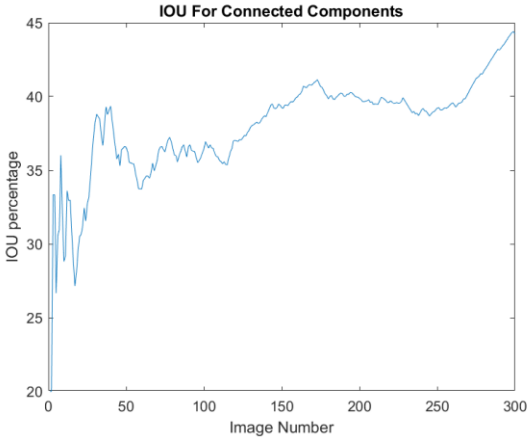


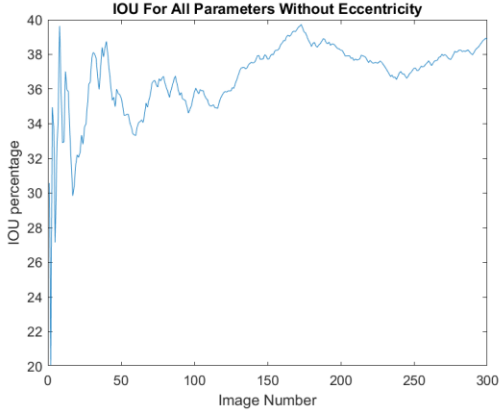




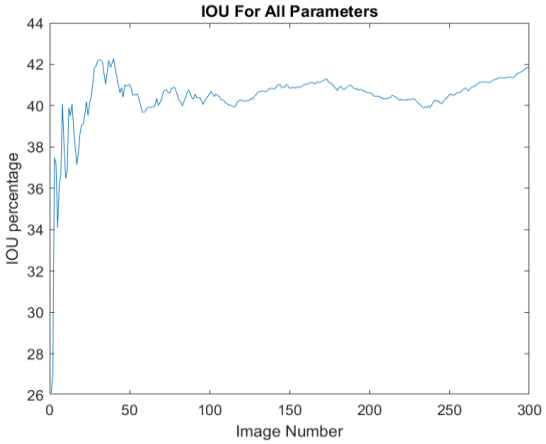

IOU For Area
IOU percentage
Image Number


IOU For Eccentricity
IOU percentage
Image Number


IOU For Connected Components
IOU percentage
Image Number


IOU For All Parameters Without Eccentricity
IOU percentage
Image Number


IOU For Intercection over union
IOU percentage
Image Number


IOU For All Parameters
IOU percentage
Image Number

Percentage Efficiency for Sc_images

	IOU for Area	IOU for Eccentricity	IOU for Connected Components	IOU for All Parameters	Intersection over unión	IOU for all Parameters without Eccentricity
Method 1	73.10406	0.474215	75	41.48212	51.53119	54.38218
Method 2	39.58845	9.731184	42.68204	38.24983	60.99765	47.75604
Method 3	38.87258	14.48669	44.25177648	41.79097	69.552857	50.8924035

Comparison of 3 methods used: