EN3160 Assignment 2 on Fitting and Alignment

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Index: 200105F

1. A field of flowers with red circles

   Description automatically generated

A field of sunflowers with red circles

Description automatically generated

1. A diagram of a line with colored dots

   Description automatically generated with medium confidence(a)

The selected normal distance to the estimated line = 1

Number of points that must be in the consensus = 0.4 \* All points

A screenshot of a computer program

Description automatically generated

(b) Subtracting the consensus of the best line

outliers\_indices = np.where(np.logical\_not(best\_inliers\_line))[0]

outliers\_data = dataset[outliers\_indices, :]

I have set the threshold of error (Radial) to be Radius // 3 and the number of points that must be in the consensus to be 0.9 \* All points.

RANSAC Circle Fitting

Code for the RANSAC circle

A diagram of a circle with dots

Description automatically generatedA screen shot of a computer program

Description automatically generated

A graph with colorful dots and lines

Description automatically generated(c)

(d)

1. A computer screen shot of text

   Description automatically generated

A large screen with a group of people on it

Description automatically generatedA flag on the side of a building

Description automatically generated

A flag with a lion and a sword

Description automatically generated

The Sri Lankan flag is blended to look like hanging on the wall.

The 2014 cricket World Cup winning moment is placed on the screen to make it look like the match is telecasted on the giant screen.

I am using the findHomography function to calculate the homography and warpPerspective to ward the image of the flag.

A group of people in blue uniforms

Description automatically generated

A computer screen shot of a program

Description automatically generated4.

RANSAC

SIFT Feature Matching

A screen shot of a computer program

Description automatically generated

SIFT Features Between Images 1 and 5

A close-up of a graffiti

Description automatically generated

A screenshot of a computer code

Description automatically generatedA black background with white numbers

Description automatically generated

Provided Homography

Calculated Homography

Homography Calculation

A screen shot of a computer code

Description automatically generated

A close-up of a graffiti wall

Description automatically generated