This is a program that can classify images of fasteners by comparing their form parameters. The form parameters are calculated using the Green theorem, combined with 4-crack code contour tracking. Additionally, a Connected Component Labelling function has been developed to calculate the form parameters as well.

To use the program, follow these 3 steps:

1. Load Image: Click the "Load Image" button to choose an image from the Evaluation Folder that contains only one fastener.

2. Pre-processing: Click the "Pre-processing" button to preprocess the image.

3. Compute Parameters and Classify: Finally, click the "Compute Parameters and Classify" button to calculate the form parameters and classify the image.

[Bonus]: You can also use the "Connected Component Labelling" button to segment the image and identify all of the items within it.

Thank you for using this program developed as part of the Industrial Machine Vision course taught by Professor Nicholas Krouglicof.

The application can even recognize a lock with reflection.

Graphical user interface, application

Description automatically generated

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