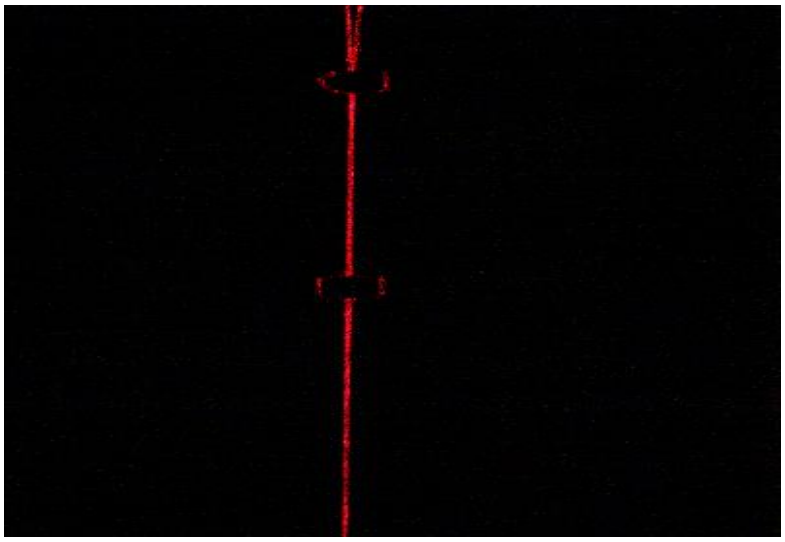
Flaw Detection System - Reactor Engineering Division

Overview

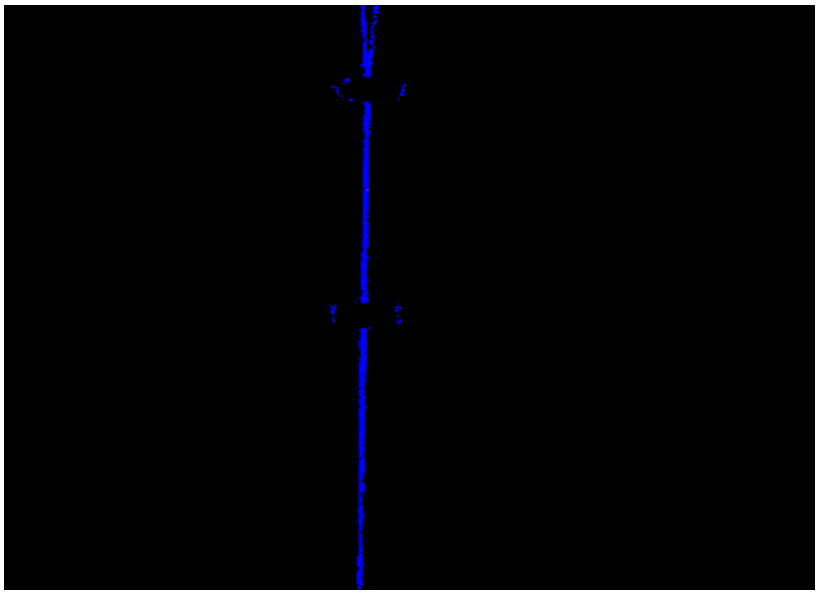
This Flaw Detection System is designed to analyze images for flaws within reactor engineering components. It processes selected images, identifies flaws, and calculates their depths. The system also generates a 3D surface plot of the detected flaws and provides a detailed report in PDF format.

Features

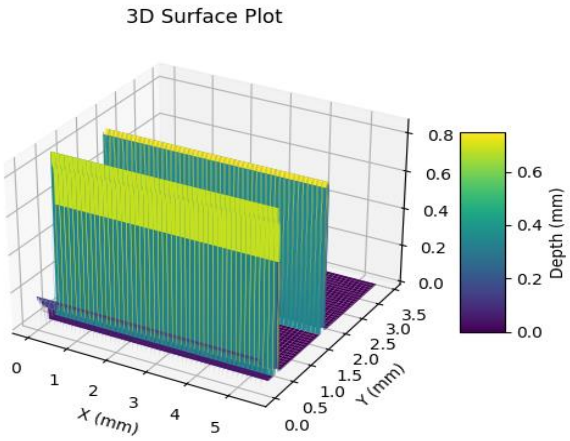
1. **Image Loading and Saving**: Allows users to select multiple images, save them, and display the resized version.



2. **Image Processing**: Converts images to grayscale, applies Gaussian blur, and performs thresholding to highlight flaws.



3. **3D Surface Plot**: Generates a 3D plot showing the depth of the flaws.



4. **Flaw Depth Calculation**: Calculates the depth of each detected flaw and displays it in a table.

	Flaw	Start (mm)	End (mm)	Average Depth (mm
1	Flaw 1	0.472	0.532	0.788
2	Flaw 2	1.767	1.859	0.725

5. **Report Generation**: Saves the flaw data and plots into a PDF report.