
Textile Fabric Defect Detection

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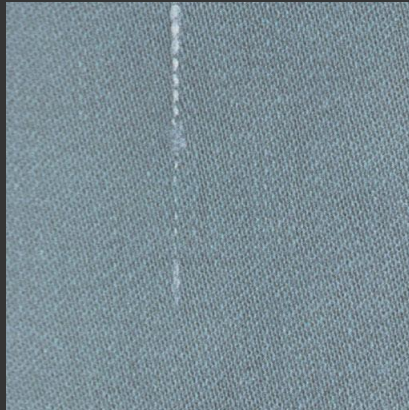
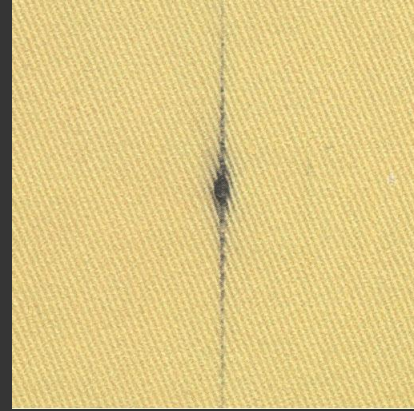
Shivam Shanker 2017265

Sohaib Fazal 2017267

Methods Used:

- RGB -> Gray Conversion
- Histogram Equalization when required
- Gaussian Smoothing
- Gabor filtering for feature extraction
- Binarization With Otsu's Thresholding
- Morphological Processing, Closing Operation (Erosion followed by Dilation)
- Canny Edge Detection to detect defect boundaries.
- Box Filter for joining broken edges of defected boundary found by Canny Operation.
- Joined boundaries are set RGB [1,0,0] indicating defect in red colour.

Types of Defects



Results Found

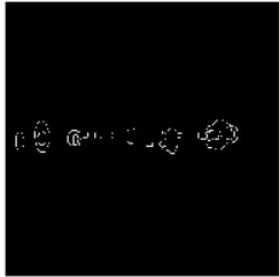
rgb image



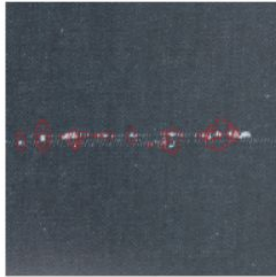
gabor filter



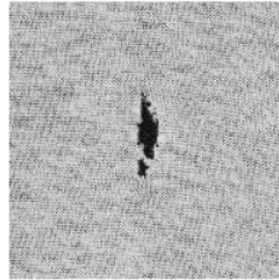
edge detected image



final defect detected image



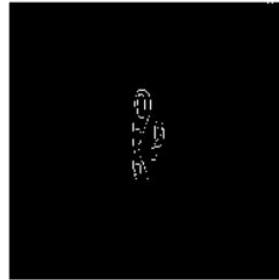
rgb image



gabor filter



edge detected image

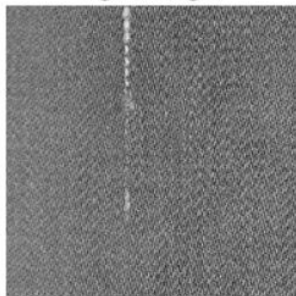


final defect detected image



Results Found

rgb image



gabor filter



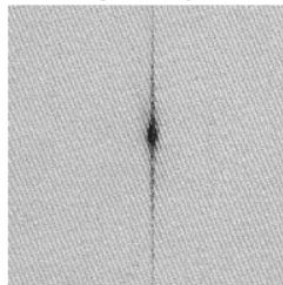
edge detected image



final defect detected image



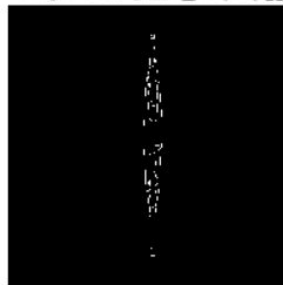
rgb image



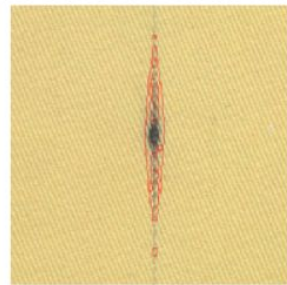
gabor filter



edge de



final defect detected image



Research paper links

<https://pdfs.semanticscholar.org/48cf/e2f0c01e7df4dfa2aaa7e67ce375bc173a41.pdf>

<https://www.irjet.net/archives/V5/i12/IRJET-V5I12173.pdf>

<https://pdfs.semanticscholar.org/ede4/35f15984e88bd46b1d427c43c3bcfb4c6f32.pdf>