# **Improvements to Edge Detection for use in Facial Recognition Software**

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## **Doel**

The edge detection currently used in the repo ignore insignificant edges, such as those found in the wrinkles in clothes caused by low contrast edges, the objective is to only show an edge when there is a significant change in intensity.

The original implementation of the edge detection appears to only be a convolution of the image with a 9x9 version of the the positive laplacian matrix. Preprocessing besides a conversion to grayscale, and scaling.

The goal of this Study/Implementation is to see what steps are needed to improve upon a base laplacian operator, and if these steps are worth the (possible) reduction in runtime efficiency.

## **Methoden**

The original implementation of the edge detection appears to only be a convolution of the image with a 9x9 version of the the positive laplacian matrix. Preprocessing besides a conversion to grayscale, and scaling. Initial research and lectures suggest that applying a blur effect will reduce noise and smaller

## **Keuze**

Je geeft een onderbouwing over waarom een bepaalde methode is gekozen, en/of waarom bepaalde settings zijn gebruikt.

## **Implementatie**

Je geeft aan hoe deze keuze is geïmplementeerd in de code

## **Evaluatie**

Je geeft aan welke experimenten er gedaan zullen worden om de implementatie te testen en te ‘bewijzen’ dat de implementatie daadwerkelijk correct werkt. Dit geeft direct informatie over de meetrapporten die er zullen worden gemaakt.

sources for edge detection:

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.402.1860&rep=rep1&type=pdf>

<https://en.wikipedia.org/wiki/Edge_detection#Approaches>

<https://en.wikipedia.org/wiki/Sobel_operator>

<https://en.wikipedia.org/wiki/Canny_edge_detector>

<https://www.sciencedirect.com/science/article/pii/S0167865507003467>