

SEGMENTATION METHOD IN OCCLUSION IRIS IMAGE FOR NON-COOPERATIVE IRIS RECOGNITION



PROBLEM

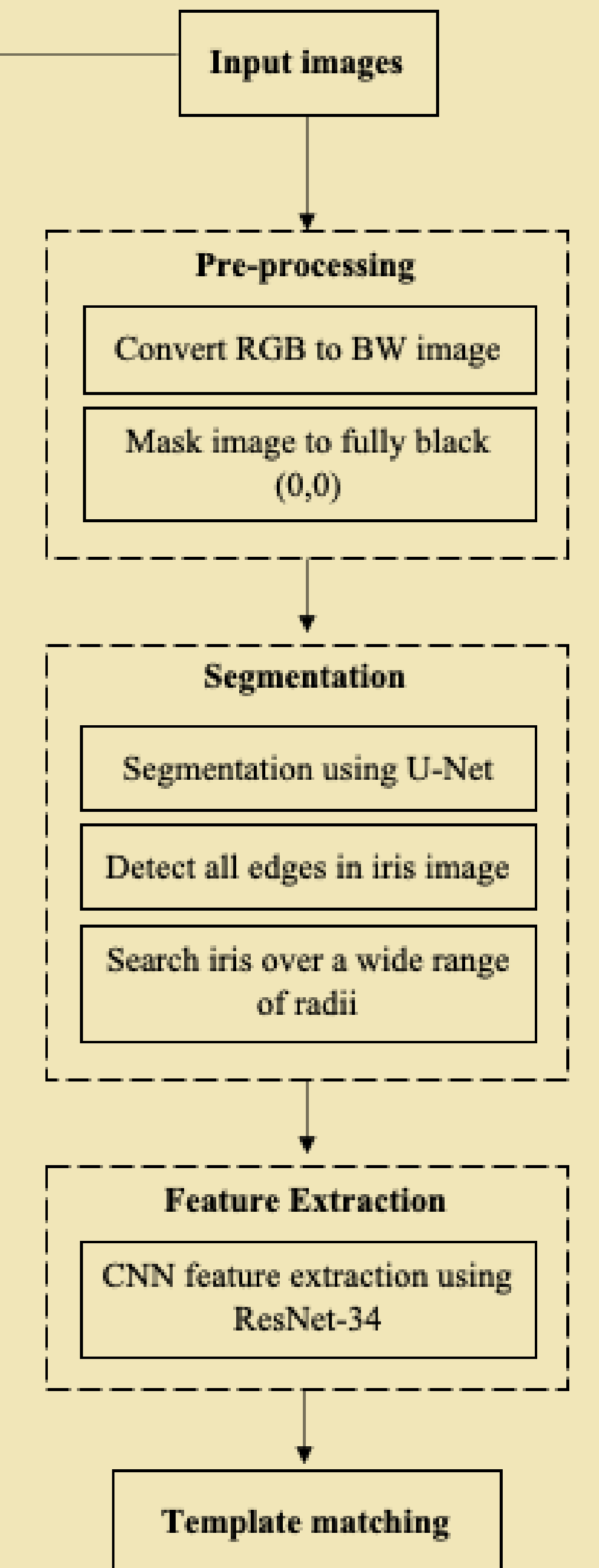
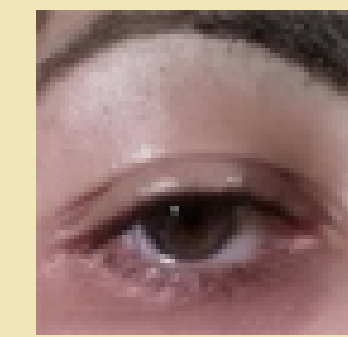
- Poor illumination effects from indoor and outdoor environments
- The occluded regions will be unable to extract when eyes are not properly opened
- Robust performance of the handheld devices for occlusion iris images



OBJECTIVE

- To identify and investigate a segmentation method using a deep learning approach for occlusion of eyelids and eyelashes in iris images.
- To analyze the performance of the segmentation method using a deep learning approach for mobile iris images based on the accuracy.
- To evaluate and propose the segmentation method using a deep learning approach for iris recognition.

METHODOLOGY



SIGNIFICANCE OF THE STUDY

- Biometrics Aspect
 - a. Capable to tackle the data that is captured on any occlusion settings using deep learning approach.
 - b. Address the problem that occurred in occlusion images in terms of eyelashes and eyelids.
- Security Aspect
 - a. Able to replace traditional recognition systems such as the use of passwords, personal identification numbers, and identity cards.
 - b. Deploy in mobile devices for unlocked verification and airport border crossings.

90%

EXPECTED FINDING

- Implementation of **Dynamic U-Net** for image segmentation
- Implementation of **CNN feature extraction**
- Well-execution during template matching using **Spotify's Annoy**
- Achieve a good performance in iris segmentation with accuracy **more than 90%**.
- Obtain a good similarity index in matching the iris images.



colab python PyTorch fast.ai



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