

# Improve image quality from adjacent frames in video

## Background

If an incident like a robbery occurs and it was recorded on video by the surveillance system, typically, the police would like to have an image showing the face of the robber. This is to help them identify who it is either by manually comparing it to a database of pictures they have or by showing it to a number of relevant people or maybe even on the news.

It goes without saying that image quality is important in order to increase the likelihood of identifying the robber. Taking just one image from the recorded video is easy but by doing so, a lot of extra information is also disregarded. Especially frames adjacent to the selected image might hold information that can be used to improve the quality of the selected image, making it more sharp and detailed.

## The project

In this project, we want to investigate how to make an algorithm that can create a single high-quality still image from a video sequence. It is okay to instruct the algorithm with different input like selecting the important area of interest (e.g. the face of the robber). In addition, the user could provide other parameters, but it is important that a user-friendly interface can be built on top of the algorithm allowing non-technical people to use it and still get good results.

Performance is not critical, but creating a new high-quality image should be doable in a matter of seconds.

It is expected that a standalone prototype of the proposed algorithm is implemented that shows how it can create high-quality images from different video sequences. In addition, performance measurements are expected.

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