

New Feature Spotlight: Headlight Glare Removal

At night, the headlights of a vehicle are seen prior to the vehicle entering the camera view. The vehicle headlight illuminates the scene and the head light beam gets captured as a standalone object or as a large extension of the vehicle in traditional video analytics solutions. The vehicle may never be seen by the camera but the headlight beam of a passing car may get detected triggering false alarms. As the headlight beam usually lights up a large area, it can also cause multiple objects to get merged thereby reducing the quality of detections and tracking. Panoptes provides an intelligent headlight glare removal option that can mitigate such issues.

The two sets of images below demonstrate the headlight glare removal in action.



Figure 1. *Top left*) A vehicle headlight beam illuminates the camera view. *Top right*) As the headlight beam is strong, a large number of pixels get a high probability of belonging to the foreground based on the learnt background model. *Bottom left*) The detected headlight beam pixels. *Bottom right*) The final processed image devoid of any headlight beam false positives.

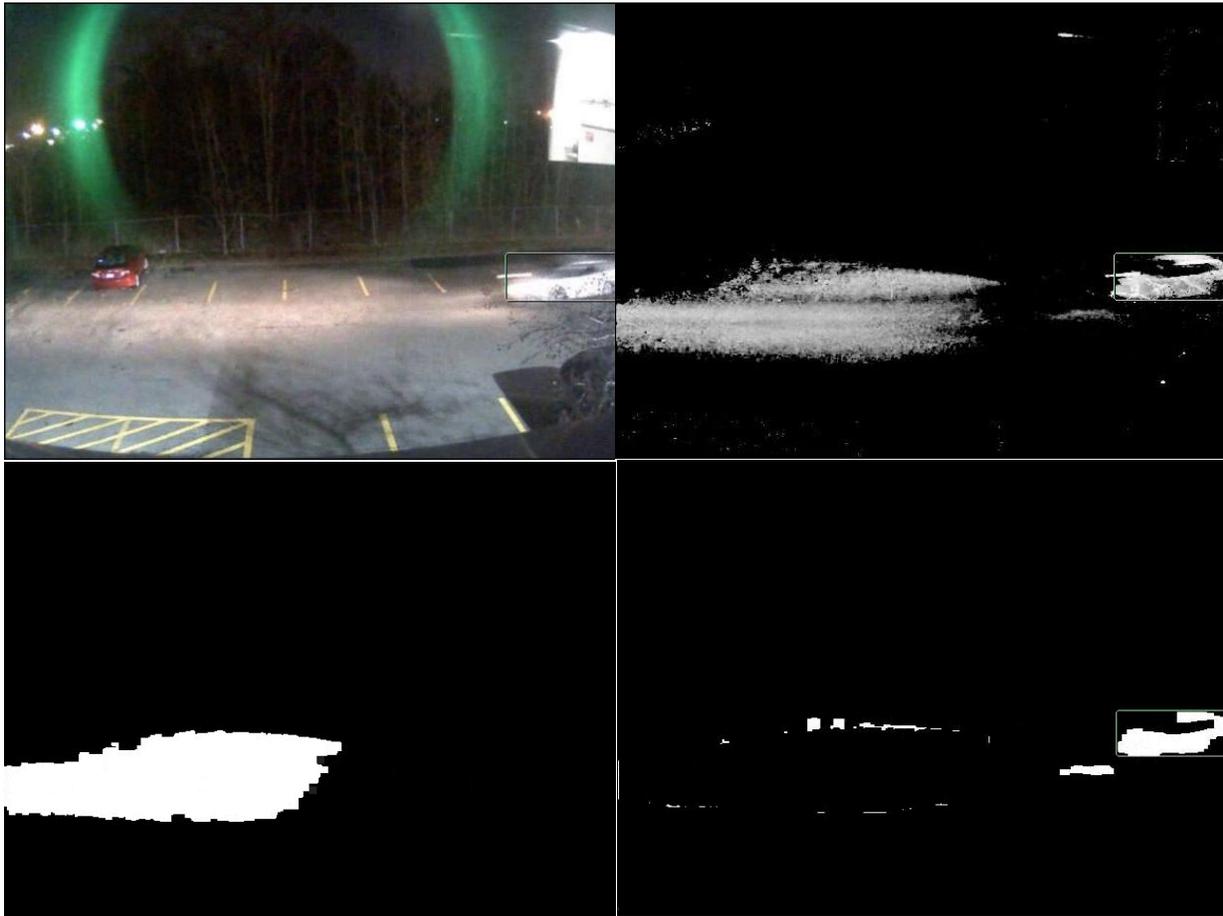


Figure 2. *Top left*) A vehicle, with the headlight turned on, enters the camera view. Note that only the vehicle is detected (with a bounding box) as a foreground object. *Top right*) As the pixels illuminated by the headlight beam and the vehicle pixels get a high probability of belonging to the foreground based on the learnt background model. *Bottom left*) The detected headlight beam pixels. *Bottom right*) The final processed image devoid of any headlight beam false positives, the vehicle gets correctly detected.

Figure 1 shows a camera view that has been illuminated by the headlight of an approaching vehicle. The scene pixels illuminated by the headlight beam get a high probability of belonging to the foreground based on the learnt background model. The headlight glare removal component correctly identifies the illuminated pixels as belonging to the headlight and removes them from the final processed image. Later the vehicle enters the camera view, figure 2. As can be seen in the images the vehicle gets correctly detected as a foreground object while the pixels illuminated by the headlight get removed from the final processed image.

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