

ABSTRACT

Embodiments of the disclosure provide systems and methods for updating a high-resolution map. The system may include a communication interface configured to receive a plurality of image frames captured by a binocular camera equipped on a vehicle, as the vehicle travels along a trajectory. The system may further include a storage configured to store the high-resolution map and the plurality of image frames. The system may also include at least one processor. The at least one processor may be configured to generate point cloud frames based on the respective image frames. The at least one processor may be further configured to position the vehicle using the point cloud frames. The at least one processor may be further configured to merge the point cloud frames based on the vehicle positions. The at least one processor may also be configured to update a portion of the high-resolution map based on the merged point cloud.

(Fig. 3)