# GUIDED STEREO MATCHING

## ALMA MATER STUDIORUM-UNIVERSITÀ DI BOLOGNA



The invention refers to a method for integrating information obtained through active depth sensors, such as, for example, Lidar, or from non- learning-based algorithms, used as a guide, into depth estimation systems based on automatic learning from images such as stereo matching, etc.

**Protection:** International

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## INVENTION

The proposed technology acts on the abstract representation of the observed scene inside the deep learning algorithm as well as a conventional method. In particular, measurements obtained from active sensors (or non-learned stereo algorithms) are used to enhance features inside the deep learning algorithm in correspondence of values consistent with depth measured by the sensor or algorithm. Such formulation is flexible and adaptable to other usion configurations, such as active sensor together with non-learned stereo algorithm.

## ADVANTAGES

- Error correction in estimation of depth in adverse conditions;
- Depth estimation process more reliable;
- Improvement of navigation capacity and robustness.

## APPLICATIONS

- Autonomous driving systems;
- Industrial applications such as Robotics;
- Augmented Reality.

## CONTACTS

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