

ABSTRACT

An autonomous vehicle (10) includes a camera (41) and a self-location estimating unit (86). The self-location estimating unit (86) is configured to estimate a self-location using an image data set (IM1) obtained from the camera (41) and a map data set (M1) that associates a positional information set with each of multiple map image data sets (IM11 to IM 13). The self-location estimating unit (86) is configured to obtain a clipped image data set (IM21) from the image data set (IM1), identify one of the map image data sets (IM13) that corresponds to the clipped image data set (IM21) by executing a matching process between the clipped image data set (IM21) and at least one of the map image data sets (IM11 to IM 13), and estimate the self-location from a relative positional relationship between the identified map image data set (IM13) and the clipped image data set (IM21). Each positional information set is associated with a coordinate point representing an optical axis position of the camera (41) in a coordinate system representing a pixel position of the corresponding map image data set (IM11 to IM13).

(Fig. 3)