

ABSTRACT

A track identification device of an embodiment has an index deriving unit, an initial searching unit, a secondary searching unit, and a railway track recognizing unit. The index deriving unit derives an index indicating railway-track-likeness for each pixel or pixel group of a captured image of a train vehicle running direction. The initial searching unit selects one line segment for which an evaluation value of indices for pixels or pixel groups corresponding to a plurality of line segments connecting a first point and a second point in an upper end of an initial area and a third point and a fourth point in a lower end respectively is greater than an evaluation value of indices of other line segments. The secondary searching unit, with a point of an upper end of a selected line segment as a first reference point, selects a line segment among line segments included in a search region extending toward a top of the image for which an evaluation value of indices is greater than an evaluation value of indices of other line segments, and repeatedly executes an adoption of an upper end of the selected line segment as a next reference point. The track recognizing unit recognizes a railway track based on results of processes by the initial searching unit and the secondary searching unit.