Abstract

The usage of satellite images and extracting road from the imagery becomes very significant in the services related to road transportation such as maintenance, creation and so on. The literature has numerous works for road extraction but very less contribution is found in dealing with rural areas. In the previous work, ANN-based road extraction technique has been
proposed. However to improve the performance of the technique, herewith a new road extraction technique is proposed. The proposed technique extracts the road mainly with the contribution of gradient operation and skeletal ray formation over the subjected satellite imagery. As minor operations, filtering and threshold-based processing is performed. At the end, a coloring is performed followed by a morphological operation to extract the final road from the subjected rural areas. The proposed technique is tested with different satellite images and the results are compared against the previous technique. The comparative analysis show that the proposed technique outperforms rather than the previous technique in terms of standard performance measures such as completeness, correctness and quality.

Reference

- Uwe Bacher and Helmut Mayer, "Automatic Road Extraction from IRS Satellite Images in Agricultural and Desert Areas", The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Vol. 35, pp. 1055-1060, 2004

Index Terms

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processing             gradient
skeletal ray
 dominant points
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