

Documents

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Efficient 3D stereo vision stabilization for multi-camera viewpoints

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Abstract

In this paper, an algorithm is developed in 3D Stereo vision to improve image stabilization process for multi-camera viewpoints. Finding accurate unique matching key-points using Harris Laplace corner detection method for different photometric changes and geometric transformation in images. Then improved the connectivity of correct matching pairs by minimizing the global error using spanning tree algorithm. Tree algorithm helps to stabilize randomly positioned camera viewpoints in linear order. The unique matching key-points will be calculated only once with our method. Then calculated planar transformation will be applied for real time video rendering. The proposed algorithm can process more than 200 camera viewpoints within two seconds. © 2019 Institute of Advanced Engineering and Science. All rights reserved.

Author Keywords

Feature extraction; Image processing; Multi-camera stabilization; Similarity transformation; Video rendering

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