

Review

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Underwater Image Restoration and Enhancement: A Comprehensive Review of Recent Trends, Challenges, and Applications

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Enhancement Of Underwater Images A Review Ijcsit

**Ricard Prados,Rafael Garcia,László
Neumann**

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Image Blending Techniques and their Application in Underwater Mosaicing Ricard Prados,Rafael Garcia,László Neumann,2014-04-05 This work proposes strategies and solutions to tackle the problem of building photo mosaics of very large underwater optical surveys presenting contributions to the image preprocessing enhancing and blending steps and resulting in an improved visual quality of the final photo mosaic The text opens with a comprehensive review of mosaicing and blending techniques before proposing an approach for large scale underwater image mosaicing and blending In the image preprocessing step a depth dependent illumination compensation function is used to solve the non uniform illumination appearance due to light attenuation For image enhancement the image contrast variability due to different acquisition altitudes is compensated using an adaptive contrast enhancement based on an image quality reference selected through a total variation criterion In the blending step a graph cut strategy operating in the image gradient domain over the overlapping regions is suggested Next an out of core blending strategy for very large scale photo mosaics is presented and tested on real data Finally the performance of the approach is evaluated and compared with other approaches

Underwater Image Enhancement Device and Method to Capture and Process Underwater Images Siddhartha Bhattacharyya,Soumyadip Dhar,Hiranmoy Roy,Arunarka Mukhopadhyay,Antu Kundu,Soham Roy,Arunava Ghosh,Jan Platoš,Sergey Gorbachev,Victor Kuzin,Leo Mršić,Debashis De,Kousik Dasgupta,Boris Gusev,Dong Yue,2022

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