Thermal Image Synthesis: Bridging the Gap Between Visible and Infrared Spectrum

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Patricia L. Suárez & Angel D. Sappa

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Abstract

This paper proposes a novel approach for obtaining high-quality thermal image-like representations that can be used as inputs in various thermal image compressive sensing applications. We address the challenge of low-resolution/quality thermal images by generating synthetic thermal image representations using a contrastive cycled GAN network from low-cost visible images. These representations can then be used to improve the quality of low-quality thermal images of the same scene. Experimental results demonstrate the effectiveness of the proposed approach on different datasets.

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Author information

Authors and Affiliations

ESPOL Polytechnic University, FIEC, CIDIS, Guayaquil, Ecuador

Patricia L. Suárez & Angel D. Sappa

Computer Vision Center, 08193, Bellaterra, Barcelona, Spain

Angel D. Sappa

Corresponding author

Correspondence to Patricia L. Suárez .

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