

## Size Reduction of Images Using Constraint Optimization Approach for Machine Communications

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**Abstract :** This paper presents the size reduction of images for machine-to-machine communications. Here, the salient image regions to be preserved include the image patches of the key-points such as corners and blobs. Based on a saliency image map from the key-points and their image patches, an axis-aligned grid-size optimization is proposed for the reduction of image size. To increase the size-reduction efficiency the aspect ratio constraint is relaxed in the constraint optimization framework. The proposed method yields higher matching accuracy after the size reduction than the conventional content-aware image size-reduction methods.

**Keywords :** image compression, image matching, key-point detection and description, machine-to-machine communication

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