Two Alternative Forced Choice (2AFC)

Goal: Collect large-scale set of human perceptual judgments on distortions

Procedure: Sample a patch. Distort it twice. Ask human which is smaller.

Training on 2AFC

Deep Networks as a Perceptual Metric

Goal: Validate 2AFC with less ‘cognitively penetrable’ test

Procedure: Ask if human perceptual judgments are similar or not

Evaluation: High correlation (> 0.92) between 2AFC and JND

The Unreasonable Effectiveness of Deep Features as a Perceptual Metric

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Qualitative Comparison

Though SSIM was not designed to handle geometric distortions, it is commonly used, even when such distortions are a large factor.