ICSPIS 2021

Perceptually-Optimized Loss Function for Image Super-Resolution

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December 29, 2021

Outline

- Problem Definition
 - Image Super-Resolution
 - Loss Function



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increasing the dimension



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 $\bullet \ \ \mathsf{input} \ (X_{M \times N}) \xrightarrow{\mathsf{upsampling} \ \mathsf{by} \ \mathsf{a} \ \mathsf{factor} \ \mathsf{of} \ 2 \ (\mathsf{i.e.} \ \ 2 \uparrow)} \mathsf{output} \ (Y_{2M \times 2N})$

increasing the dimension

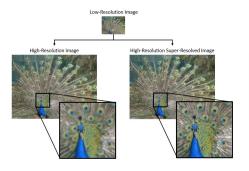
- $\bullet \ \ \mathsf{input} \ (X_{M \times N}) \xrightarrow{\mathsf{upsampling} \ \mathsf{by} \ \mathsf{a} \ \mathsf{factor} \ \mathsf{of} \ 2 \ (\mathsf{i.e.} \ \ 2 \uparrow)} \mathsf{output} \ (Y_{2M \times 2N})$
- BiLinear, Bicubic, etc.

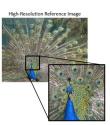
increasing the dimension

• !! Preserving the quality !!

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CNNs and Loss Functions

Super-Resolver CNNs

