

Priors for Deep Image Restoration and Enhancement

Sec.3 Ruled Prior

Statistic Distribution as Prior

Motion Blur Model as Prior

Temporal Prior

- *Optical flow*
- *Temporal sharpness prior*

Transformation as Priors

- *Learning with Frequency Information*
- *Gamma Correction Prior*
- *Histogram Equalization Prior*

Kernel Information and Noise Map as Prior

- *Conditional Input*
- *Blind Degraded Image Synthetic*

Physical-based Priors

- *Atmospheric Scattering Model*
- *Rain Model*
- *Retinex Model*

Multi-Task Learning as Priors

Sec.2 Background and Mathematical Fundamentals

- *Definition and Forms of Image Enhancement*
- *Scope of Priors*
- *Analysis of Prior Effectiveness*

Sec.4 Latent Prior

Non-local Self-similarity

Facial Prior

Deep Prior

- *Deep Image Prior*
- *Generative Prior*
- *Deep Video Prior*

Sec.5 Discussion

Connections Between Priors

Potential of Priors

Sec.7 Open Challenge

Sec.7 Conclusion