Non Local Means

Dinesh Subhuraaj, Eram Arfa, Priyashi Yadav

Institut fur Parallele und Verteilte Systeme, IPVS, University of Stuttgart

1. **INTRODUCTION**

**Non-local means** is an image processing algorithm for [image denoising](https://en.wikipedia.org/wiki/Image_denoising). Local mean filters, take the [mean](https://en.wikipedia.org/wiki/Mean) value of a group of pixels surrounding a target pixel to smoothen the image, whereas non-local means filtering takes mean of all pixels in the image, weighted by how similar these pixels are to the target pixel. This results i much greater post-filtering clarity, and less loss of detail in the image compared with local mean algorithms. If compared with other well-known denoising techniques, non-local means adds "method noise" (i.e. error in the denoising process) which looks more like [white noise](https://en.wikipedia.org/wiki/White_noise), which is desirable because it is typically less disturbing in the denoised product. Recently non-local means has been extended to other image processing applications such as [deinterlacing](https://en.wikipedia.org/wiki/Deinterlacing), view interpolation, and depth maps regularization.

1. IMPORTANCE OF NON LOCAL MEANS
2. IMPLEMENTATION

3.1. Implementation on CPU

3.2. Implementation on GPU

1. RESULTS
2. CONCLUSION
3. TASKS DONE BY

Dinesh

Eram

Priyashi

1. REFERENCES