





















50%	39.4481	0.30231
60%	38.641	0.25279
70%	38.6431	0.27419
80%	38.0477	0.2329
90%	37.5519	0.209

#### 4. CONCLUSION

In this study, we have proposed an effective technique for denoising the video stream. For verification of the proposed framework, we have considered four different video streams each of which are having different video length and different frame rate. In these distinct video streams noise is added in the step of 10% and varied from 10% to 90% value. The performance of the disclosed denoising framework is evaluated using ascendency parameters like PSNR, SSIM and MSSIM. With the 10% addition of the noise the PSNR value ranges in the house of 47 db, SSIM figures around 0.75 and MMSIM around 0.9. With the increase in the noise value up to 90%, the PSNR drop down to 37 db, SSIM to 0.2 and MSSIM to 0.77.

#### REFERENCES

- [1] <https://www.tubefilter.com/2019/05/07/number-hours-video-uploaded-to-youtube-per-minute/>
- [2] S. Gu, J. Bao and D. Chen, "Learnable Sampling 3D Convolution for Video Enhancement and Action Recognition," 2021 IEEE International Conference on Multimedia and Expo (ICME), 2021, pp. 1-6, doi: 10.1109/ICME51207.2021.9428329.
- [3] M. Li, D. Sun, Y. Lu, Q. Gao and Y. Liu, "Video Image Deblurring Algorithm Based on Denoising Engine," 2021 IEEE International Conference on Information Communication and Software Engineering (ICICSE), 2021, pp. 136-139, doi: 10.1109/ICICSE52190.2021.9404106.
- [4] A. M. Tekalp, M. Covell, R. Timofte and C. Dong, "Editorial: Introduction to the Issue on Deep Learning for Image/Video Restoration and Compression," in IEEE Journal of Selected Topics in Signal Processing, vol. 15, no. 2, pp. 157-161, Feb. 2021, doi: 10.1109/JSTSP.2021.3053364.
- [5] C. Chen, J. Han and Y. Xu, "Video Denoising for the Hierarchical Coding Structure in Video Coding," 2020 Data Compression Conference (DCC), 2020, pp. 362-362, doi: 10.1109/DCC47342.2020.00049.
- [6] J. Enhorn, R. Sjöberg and P. Wennersten, "A Temporal Pre-Filter For Video Coding Based On Bilateral Filtering," 2020 IEEE International Conference on Image Processing (ICIP), 2020, pp. 1161-1165, doi: 10.1109/ICIP40778.2020.9191359.
- [7] H. Yue, C. Cao, L. Liao, R. Chu and J. Yang, "Supervised Raw Video Denoising With a Benchmark Dataset on Dynamic Scenes," 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020, pp. 2298-2307, doi: 10.1109/CVPR42600.2020.00237.
- [8] S. Yu, B. Park, J. Park and J. Jeong, "Joint Learning of Blind Video Denoising and Optical Flow Estimation," 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW), 2020, pp. 2099-2108, doi: 10.1109/CVPRW50498.2020.00258.
- [9] A. Li, B. Zheng, L. Li and C. Zhang, "Optical Flow Estimation and Denoising of Video Images Based on Deep Learning Models," in IEEE Access, vol. 8, pp. 144122-144135, 2020, doi: 10.1109/ACCESS.2020.3014345.