Computer Vision Sheet01
Question 2 (f) – Discussion

As the image was corrupted due to the mix of Gaussian noise and Salt-and-Pepper noise, after analysing various tested methods, the Bilateral filter achieved the highest PSNR and produced the most visually pleasing output by effectively reducing noise while preserving the edges. The Median filter performed well for the Salt and Pepper component but didn't perform well against Gaussian Noise. Even though the Gaussian Filter smoothed the Gaussian Noise efficiently it blurred the edges. These outcomes justify the theoretical expectations that Bilateral filtering combines spatial and intensity weighting, making it suitable for mixed noise scenarios. Overall, the experimental results have confirmed the trade off between denoising strength and detail preservation through Bilateral filters.