

When using the AND operation on the image, the fine details are lost, but the image is still easily made out by humans, and the overall change is added noise and an overall darker image as AND will on average remove more 1's from the colors making them closer to black. OR has a similar but inverse effect, removing a lot of detail, but rendering the image still recognizable, with lighter colors as OR is prone to add more 1's making colors closer to white. The XOR operation rendered the image completely unrecognizable and as just a bunch of colors and noise likely as XOR will on average remove as many 1's and it adds, making pixels next to each other much more likely to be very different in color.