

## ABSTRACT

*Compressive sensing is the last technique to eliminate inefficiency during data collection and compression. Compression is performed on digital data that is currently collected (photographed or recorded) produce large amounts of data for later discarded during compression.*

*In this final project, the input used is a digital image. After sparsity transform, the image will go through the transformation of the projection according to gaussian distribution for the measurements and observations. The measurement result is not perfect because the coefficient image that is picked up only slightly and is located at random based on gaussian distribution. Furthermore, the image will be reconstructed by using basis pursuit algorithm.*

*From the test results can be seen that the projection system can be used as a transformation gaussian projection on compressive sensing for digital images. In addition, the test system obtained PSNR for the image of black-white around 50,68 dB – inf dB, for grayscale images 6,29 dB – 42,54 dB and for color image on R channel of about 4,74 dB – 43,69 dB.*

*Keywords: compressive sensing, discrete haar wavelet transform, gaussian projection, sparsity, basis pursuit.*