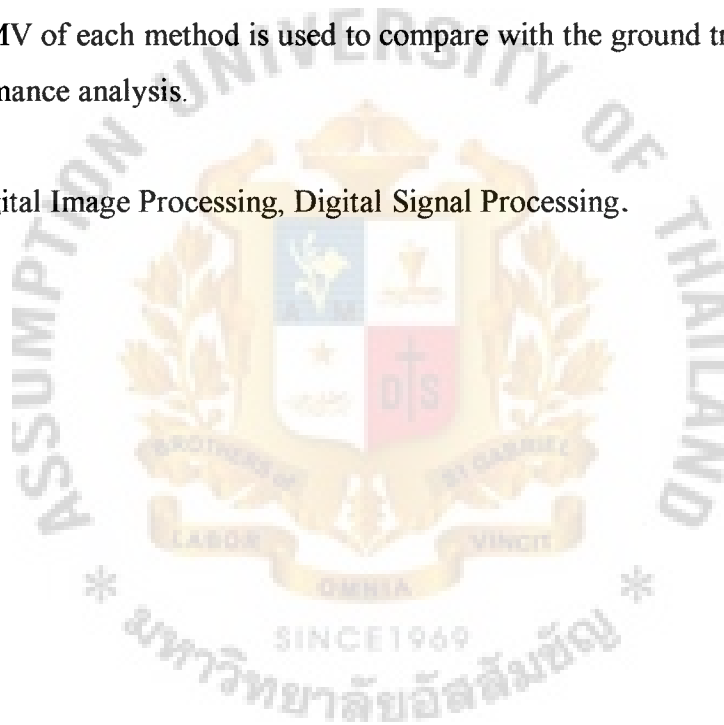


## ABSTRACT

In this paper, we focus on the robustness in noise tolerance of spatial domain optical flow. We present a performance study of bidirectional confidential with median filter on spatial domain optical flow (spatial correlation, local based optical flow, and global based optical flow) under non-Gaussian noise. Several noise tolerance models on spatial domain optical flow are used in comparison. The experimental results are investigated on robustness under noisy condition by using non-Gaussian noise (Poisson Noise, Salt & Pepper noise, and Speckle Noise) over several standard sequences. The experiment concentrates on error vector magnitude (EVM) as performance indicators for accuracy in the direction and distance of motion vector (MV). In EVM, the result in MV of each method is used to compare with the ground truth vector in the experimental performance analysis.

**Research Field:** Digital Image Processing, Digital Signal Processing.



<sup>†</sup>This technical report is a partial fulfillment of the requirement for “Experimental Study in Error Vector Magnitude of Bidirectional Confidential with Median Filter on Spatial Domain Optical Flow under Non Gaussian Noise Contamination” that has been supported by University Research Grant from Assumption University (Thailand).