

## ***Abstract: Comparison between Color Spaces for Real Time Moving Object Extraction***

Anuva Chowdhury and Ui-Pil Chong\*  
*University of Ulsan, Ulsan, Korea*  
*upchong@ulsan.ac.kr*

### **Abstract**

The act of tracking in video surveillance is an important task, especially in monitoring public and security sensitive areas. Background subtraction is an extensively used technique for real time tracking purpose. Robust and efficient tracking by background subtraction, however, depends on color spaces. In this paper, different color spaces such as RGB, HSV, YCbCr and Lab are explored to investigate their performance for the frame averaging background subtraction technique, and a comparison of such techniques for these color spaces is also provided. Image segmentation is achieved by taking the average of color values for successive frames, and Gaussian average filtering is done for smoothing purpose to maintain the real time inspection of frames. Simulation results reveal that YCbCr color space outperformed the other color spaces for this specific tracking methodology with respect to the parameters such as false negative and false positive.

### **Acknowledgements**

The authors would like to thank the Global IT Korean Government Scholarship.