Abstract

Biometric system is an identification system using unique features from human being, like retina, gait, fingerprint, palm vein, etc. Palm vein is the modality that's currently often researched by researcher in around the world, since palm vein has unique features that veins on the underside of the palm can't be manipulated easyly. The most main problem that researchers met is when there are many variances of data, they're caused by several factors such as sensor modul, lighting, and position of modalities. In this final project, researcher apply image registration / alignment to get more consistent datas for improving system performance. The method of image registration / alignment that used is Normalized Cross-Correlation (NCC) *to measure the similar information between images. Furthermore, Local Binary Pattern* (LBP) *is used as extraction feature method on the palm vein that would be conducted the matching process. The system uses three datasets, which are* PUTVEIN *Resize*100%, PUTVEIN *Resize*50%, *and* PUTVEIN *Resize*25%, *by applying the* LBP *and the* NCC *system is able to improve the accuracy up to* 93.83% *on Dataset* PUTVEIN *Resize*25% *with ratio* 6 : 6 *of data model and test.*

Keywords *: biometric, palm vein, identification, image registration / alignment, Normalized Cross-Correlation, Local Binary Pattern*