

**Aquitaine –Karnataka collaboration
Scientific Project for Pre-PhD student exchange**

Scientific Proposal

Project Title	Finger Print Compression Based on Linear Combination of Detailed Dictionary Representation	
Scientific domain	Image Processing	
Summary (ca. 10 lines)	Sparse representation based new finger print compression is introduced. Obtaining complete details from a set of fingerprint patches allows us to represent them as a sparse linear combination detailed dictionary values.. In this algorithm, primarily we construct a dictionary for predefined of fingerprint image patches. In a new given fingerprint images, it is representing its patches according to the dictionary of details by computing l^0 -minimization process as predefined way. From this finger print image patches is quantize and encode the representation. In this work, we consider the effect of various compression factors results. Three groups of fingerprint images are tested. The experiments demonstrate that our algorithm is efficient as can be improved results. From this results are compared with several competing compression techniques like JPEG, JPEG 2000, and WSQ, especially at high compression ratios. The proposed algorithm is robust to extract minutiae experiments and also illustrate that the proposed algorithm is efficient	
Student profile wished	Electrical engineering, Electronics and Communication Engineering , Information and Communication Engineering, Image processing	
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Timing & duration for project (give approximate ranges)	From 3 to 6 month, any time of the year	
Selected References	Shao, Guangqi; Wu, Yanping; Yong, A; Liu, Xiao; Guo, Tiande (2014) Fingerprint Compression Based on Sparse Representation, IEEE Transactions on Image Processing Year:2014 Month:02 Day: Volume:23 Issue:2 page:489-501	

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