

## **A Survey: Image Matching**

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*Abstract* – Many methods claim as the best method to match the image but in reality, the proficiency of an algorithm is bounded in the region of experimental setup and assumptions considered by the researchers. Current comparative studies assess the performance of the algorithms based on the results obtained in different criteria such as speed, sensitivity, occlusion, and others. These studies are an important resource to understand the behaviour of the algorithms and their influence on the results obtained. Moreover, these methods cannot be used to predict the efficiency or level of accuracy that could be reached by using one algorithm or the other depending on the type of images. This ability to predict performance becomes handy in situations where time is a limiting factor in a project because it allows one to quickly predict which algorithm will save the most time and resources. This study addresses the limitations of the existing comparative tools and delivers a generalized criterion to determine beforehand the level of efficiency expected from a matching algorithm given the type of images evaluated. Two texture based algorithms (SIFT and SURF) studied in this paper.

*Keywords* – Scale Invariant Feature Transform (SIFT), Speeded Up Robust Feature (SURF), Power Spectral Analysis.