Classification of Mammography Images using Bag of Features Model

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Abstract – The BoF model is a tool widely used in the fields of classification and image search, its popularity is largely based on its simplicity. As part of our work we will be interested in an image classification mammography based on the BOF model with SVM algorithm application and the SIFT descriptor. These algorithms show performance, the results have been compared with other algorithms. In the first phase, the SVM was used to compare the result with the MLP. In the same work, two SIFT and ORB descriptors were used. To assess the effectiveness of the proposed work, the classification rate (Acouracy) and the precision rate were calculated. The best classification rates are obtained by applying the MLP algorithm and using the SIFT descriptor on the base images (Ultra Sounde Brest Images Dataset) with a rate of 86% a small increase compared to SVM with a rate equal to 84%. Accuracy rate with 80% for MLP and 74% for SVM respectively.

Keywords – Bag of Features Models, Gks Method, SIFT Descriptor, SVM Algorithm, MLP Method.