SIFT TEXTURE DESCRIPTION FOR UNDERSTANDING BREAST

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Problem definition

Chest wall Rib Skin layers Skin layers Lesion Boundary Background Air or lungs Pectoral muscle Fibro-glandular tis Adipose tissue

Fig. 1: Dataset sample. From left to right: image sample, accompanying multi-label Ground Truth (GT), tissue label GT color-coding.

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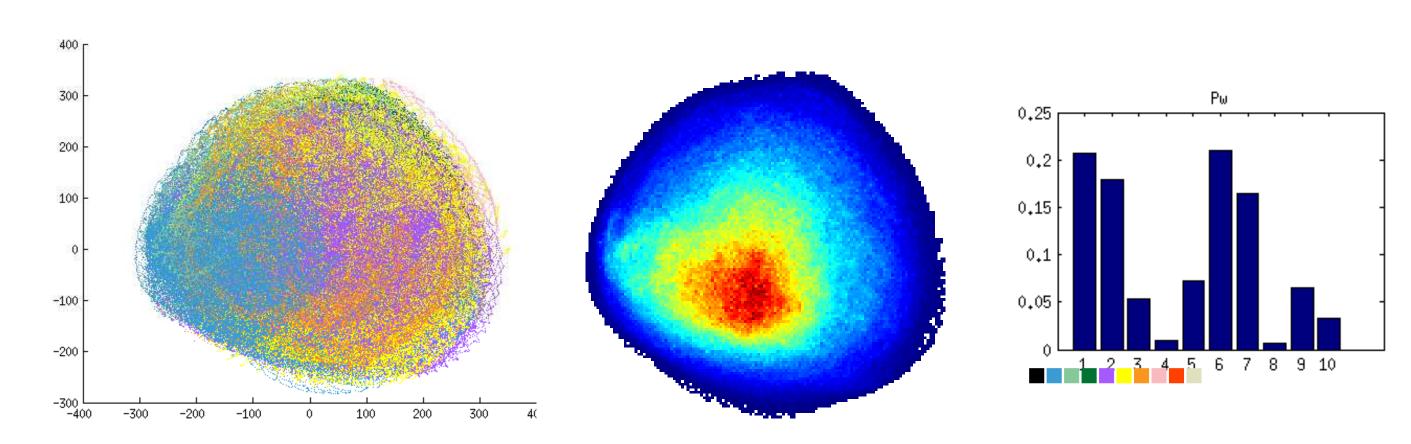


Fig. 2: SIFT space. (a) Projected space colored according to GT tissue labeling. (b) $P(\bar{x}_a)$. (c) $P(\omega)$.

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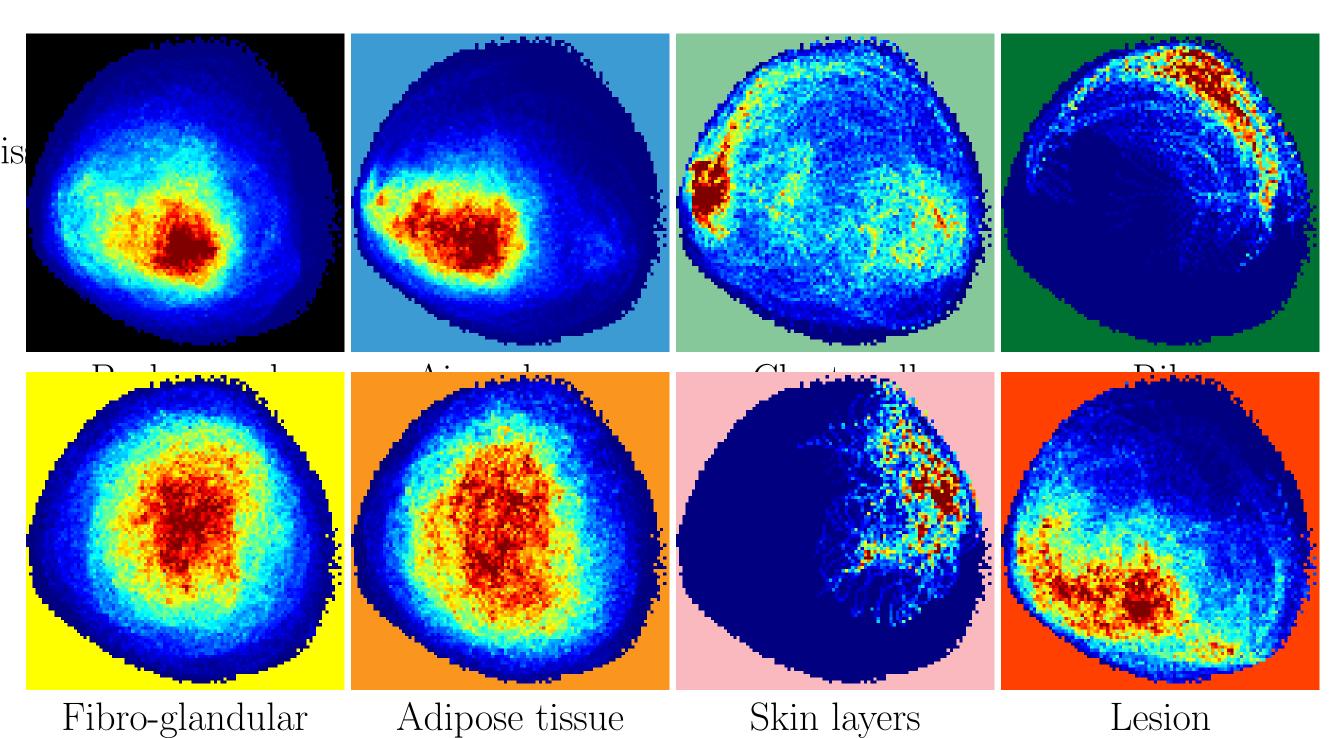


Fig. 3: Distribution of the SIFT descriptors for some classes in the GT.

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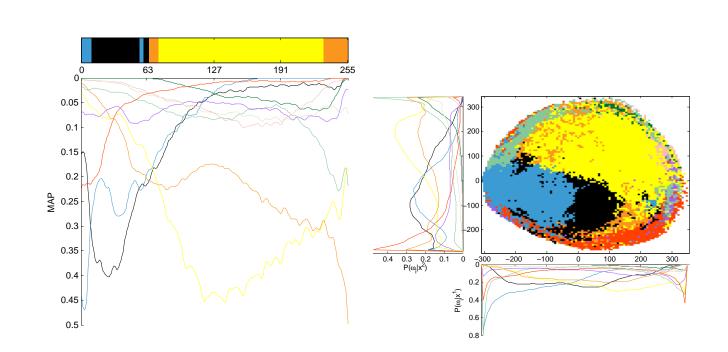


Fig. 4: Qualitative evaluation of the Maximum A Posteriori (MAP) labeling of the feature space.

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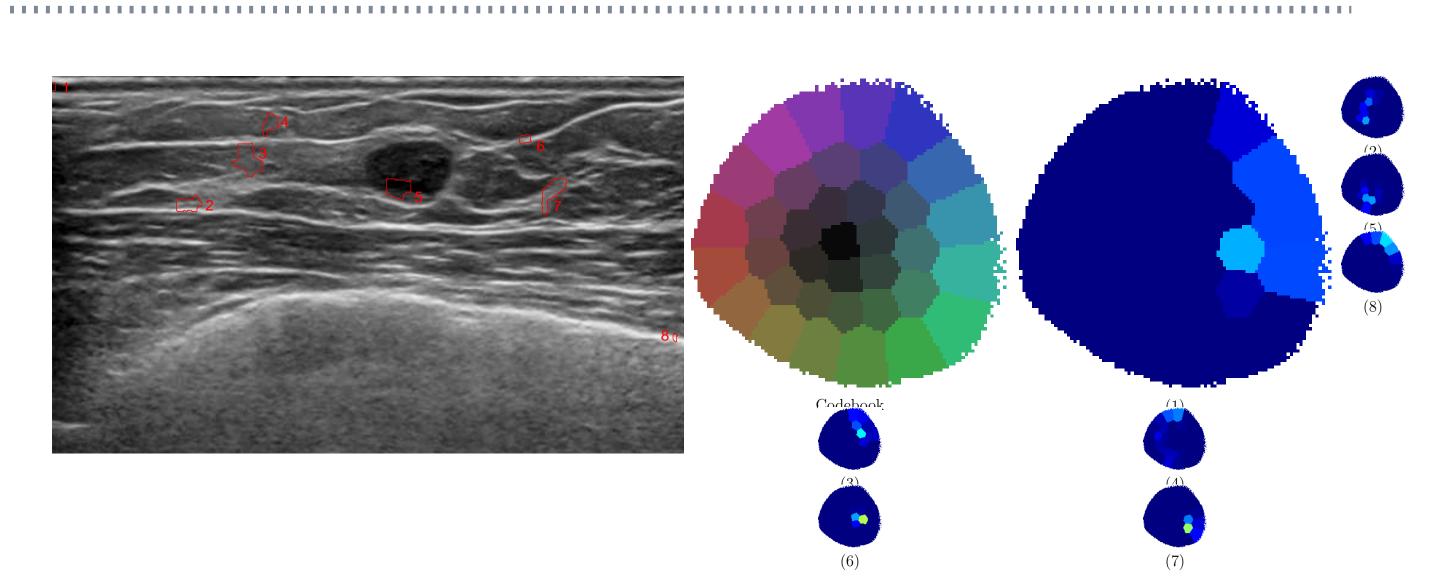


Fig. 5: SIFT-BoF descriptors qualitative analysis. (Left) image example. (Right) Dictionary representation colored using the location of the keypoint location in fig. ??a space. (1-8) Occurrence of the dictionary's key-points associated to each region highlighted in the original image.

Sample document

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