**Automatic multilevel medical image annotation and retrieval.**

Ahmed Mueen

Abstract

Image retrieval at the semantic level mostly depends on image annotation or image classification. Image annotation performance largely depends on three issues: (1) automatic image feature extraction; (2) a semantic image concept modeling; (3) algorithm for semantic image annotation. To address first issue, multilevel features are extracted to construct the feature vector, which represents the contents of the image. To address second issue, domain-dependent concept hierarchy is constructed for interpretation of image semantic concepts. To address third issue, automatic multilevel code generation is proposed for image classification and multilevel image annotation. We make use of the existing image annotation to address second and third issues. Our experiments on a specific domain of X-ray images have given encouraging results.