

Detection of Prostate Cancer on mpMRI using Intensity, Gradient and Histogram Features

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Background

Prostate cancer is the most common non-cutaneous cancer. Current standard for diagnosis (transrectal guided biopsies) is imprecise. Multiparametric MRI (mpMRI) can be used to guide biopsies and improve the diagnostic accuracy. Interpretation of mpMRI for prostate cancer is time consuming and requires high level of expertise.

Aim

Automatic detection of prostate cancer on mpMRI

Materials and Methods

MR Image feature extraction from 18 patients with confirmed prostate cancer
Classification using Naïve Bayes with leave-one-out cross-validation.

Results and Discussion

Probability maps show it is possible to detect prostate cancer in most of the patients, though with slight displacement and under estimation of the tumor volume in some patients.

