

Cancer Screening of Histopathology Images of Prostate Tissue with Functional Data Analysis

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Histology imaging is the cornerstone for confirming and understanding cancer. Current practice for examination and interpretation of histopathology images requires highly trained anatomic pathologists. The identification of cancerous image patches is time-consuming, suffers from large inter- and intra- pathologist variation; there is an increasing interest in automatizing this part of cancer screening. They propose an automatic approach to classify the image patches into cancerous and non-cancerous when multiple image patches are taken per subject. Their methodology comprises two main steps. First, they summarize the image patches using a set of spatially indexed vector-valued functions which are modeled to extract the main features that capture the image patch - specific functional and the spatial variation. Second, these features are then used in a classification approach to identify cancerous image patches. They illustrate the performance of the method through simulations and present the results on a data set containing cancerous and non-cancerous HE stained patches collected from whole slide images of prostate tissue for many patients.

Thursday, October 26, 2023, 3:30-4:30PM Eastern

133 Rosenau Hall

Zoom Link: <https://unc.zoom.us/j/95131277245>

Meeting ID: 951 3127 7245

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