

Multichannel Image Segmentation and its Application to the Analysis of IRENI Images

Vikas Singh*

Biostatistics & Med. Informatic, University of Wisconsin – Madison

The so-called image segmentation problem from computer vision deals with identifying the salient components that constitute an image. In this talk, we will first review some basic image segmentation techniques from the literature, with a specific focus on those based on Random Field theory. Next, I will introduce how some existing methods can be adapted to the analysis of IRENI (InfraRed ENvironmental Imaging) images acquired at the Synchrotron Radiation Center. In particular, we will discuss our work on deconstruction of various components of wood (lignin, cellulose and hemicelluloses) in the context of quantifying their spatial distributions from IRENI imaging data. I will discuss the key challenges, our preliminary results, and the primary directions of future work.

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