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Image Analysis and Machine Learning in Digital Pathology: Challenges and Opportunities

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Highlights

- It is well known that there is fundamental prognostic data embedded in pathology images and digital pathology will provide the next new source of “big data” for to inform clinical research and decision making.
- Work on quantitative feature modeling for tissue classification in the context of digital pathology can be classified into two general categories - handcrafted features and unsupervised feature based approaches.
- Digital pathology can serve as the “bridge” to enable the discovery of radiographic imaging biomarkers associated with molecular pathways implicated in disease severity or progression.
- There is substantial interest in combining and fusing radiologic imaging and proteomics and genomics based measurements with features extracted from digital pathology images for better prognostic prediction of disease aggressiveness and patient outcome.

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