Biomedical Informatics and Pre-college STEM Education

Digitized histopathology slide image analysis for pre-cervical cancer assessment
- Deep learning, imaging, and data fusion technique development for epithelium detection, segmentation, localized feature extraction, and CIN assessment

Dermatology skin lesion image analysis
- Development of machine and deep learning approaches to detect and segment key lesion features
- Exploration of computational intelligence and data fusion techniques for clinical and dermoscopy skin lesion image discrimination

Longitudinal study of Missouri S&T student development for students with precollege Project Lead The Way STEM program exposure
- Student assessment of career choices, academic performance, retention and precollege backgrounds

Keywords
- Image and signal processing, data fusion, computational intelligence, pre-college engineering education

Recognitions
- IEEE-USA Professional Achievement Award for “sustained contributions to pre-university engineering education”
- IEEE-Eta Kappa Nu C. Holmes MacDonald Outstanding Teaching Award

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