

Multiband Texture Re-synthesis

ABSTRACT:

The Digital Imaging and Remote Sensing Image Generation (DIRSIG) model enables a user to generate synthetic scenes. With this package these scenes can span anywhere between 0.3-20 microns and encompass an array of spatial and spectral phenomena. One project facilitated by DIRSIG is megascene. In the megascene project projection of aerial imagery is used as a texture map. After scene rendering some areas are found to hold discontinuities along the ground due to these texture map projections. I propose to remove occlusions from rendered scenes. By applying Harrison's "Non-hierarchical procedure for re-synthesis of complex structures" algorithm missing regions are seamlessly replaced into the image surround guided by each pixels entropy constraints. The algorithm preserves scene continuity and accurate texture variability in each re-synthesized scene.

BIO:

Fourth year Imaging Scientist Alvin Spivey is from Myrtle Beach, SC. Throughout his undergraduate career he has held leadership positions in many student groups such as the College of Science Student Advisory Board (COSSAB) and the Imaging Science & Technology Student Chapter (IS&T). Across his years here at the center he has also been involved in multiple research projects spanning the topics of tenth century image restoration to low and high resolution image models and simulations. His plans for the coming years are to continue on to graduate school with the Center for Imaging Science.