

## Research Opportunity in GANS-based Analysis of Remote Sensing Image Data

Seeking a PhD student to conduct research on a NASA grant focused on analysis of remotely sensed image data. Student must have completed graduate courses in signal processing and machine learning; completion of a course or experience with deep learning architectures, including GANS is desired. Proficiency in python programming and PyTorch is required.

Project description: The team is developing a robust strategy based on Generative Adversarial Learning for transfer learning across a sensor-web. The architecture includes an adversarial learning-based knowledge transfer framework that uses optics inspired and sensor-node specific neural networks, multi-branch feed forward networks to transfer model knowledge from one or more source sensor nodes to one or more target sensor nodes, and Bayesian non-parametric (variational inference) based semi-supervised learning. Model-based transfer and cross-sensor super-resolution/sharpening capability will enable end users to leverage training libraries that provide disparate or complementary information. The student would initially tackle extension of research in super-resolution related to multi/hyperspectral image data.

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