NASA JPL Internship: Machine learning and remote sensing data fusion

Background:

Advanced machine learning and data fusion techniques have shown a huge success in recent years in understanding the complex problem of discovering relationships between objects. In particular, deep learning and neural network algorithms have pushed the boundaries for numerous real-world problems in areas such as computer vision, natural language processing, and image processing. Nevertheless, the use of advanced machine learning and deep learning algorithms have not yet been fully exploited for remote sensing research.

Description:

This project aims to exploit the potential of advanced machine learning algorithms and techniques for remote sensing science and applications. This project seeks to implement advanced data analytics and machine learning techniques to extract and understand geophysical estimates from satellite remote sensing data. For a given problem, information can be obtained from multiple remote sensing data sources and such multimodal datasets represent information at varying abstraction levels. Combining information from multiple satellite data sources can further boost the performance. In this essence, the intern will implement and develop machine learning algorithms to connect data from different sensors and different observations, such as, passive microwave remote sensing observations combining with other sensor data sources, e.g. active microwave observations, infrared satellite observations, and radiative transfer models.

Background, skills, and courses:

Knowledge of Python and Linux are required.
A background in data science and machine learning is required.
Knowledge of web development is desired.
Knowledge of advanced deep learning frameworks, e.g. keras, tensorflow, pytorch are desired.

How to apply:

This position will be filled under JPL Visiting Student Research Program. Details of the program are listed in the JPL website:
https://www.jpl.nasa.gov/edu/intern/apply/visiting-student-research-program/

Dr. Tanvir Islam will serve as JPL mentor to the selected candidate. Applicants should submit their CV and other relevant materials to the above site as well as to tanvir.islam@jpl.nasa.gov