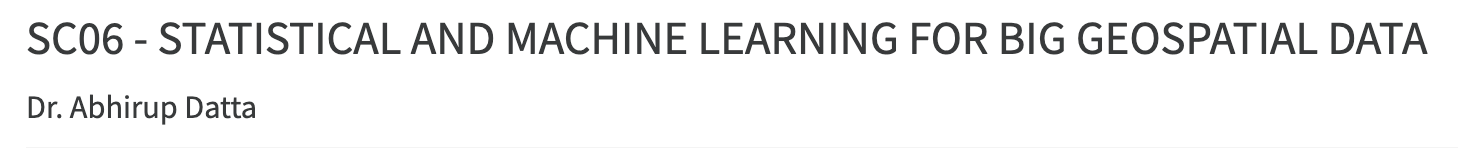
A bridge over a body of water with buildings in the background

Description automatically generated



Course outline:

Traditional geostatistical analysis (45)

* Spatial linear mixed effect models
* Gaussian processes and kriging
* Methods for spatial big data

Introduction to non-linear machine learning algorithms (30)

* Random Forests
* Neural Networks
* Challenges of standard machine learning for spatially correlated data

Machine learning algorithms for spatially correlated data (45)

* How to use spatial correlation in machine learning algorithms?
* RF-GLS: Random Forests for spatially dependent data
* NN-GLS and geospaNN: (Graph) neural networks for geospatial data (45)
* Demonstration of software RandomForestsGLS (R) and geospaNN (Python)

Demonstration of RF-GLS and