COMP39/9900 Computer Science/IT Capstone Project
School of Computer Science and Engineering, UNSW

Project Number: P14

Project Title: Predicting contaminant degradation in groundwater using machine learning

Project Clients: Professor Michael Manefield

Project Specializations: Artificial Intelligence (Machine/Deep Learning, NLP); Bioinformatics/Biomedical; Big data analytics and visualization.

Number of groups: 3

Background:

Bacteria degrade pollutants. It is difficult to predict degradation rates. This project explores the potential of machine learning to predict pollutant degradation rates using biogeochemical data including physical data, chemical data and DNA sequence data.

Requirements and Scope:

Data from a large field site will be collated and used to train machine learning models to associate features with pollutant degradation.

Just need some bright minds with machine learning experience.

Required Knowledge and skills:

Machine learning experience

Expected outcomes/deliverables:

Models that can predict pollutant degradation from biogeochemical data.

Supervision:

Professor Michael Manefield

Additional resources:

Field data sets will be supplied on commencement of project.