

Accurate retrieval of water quality parameters from remote sensing data

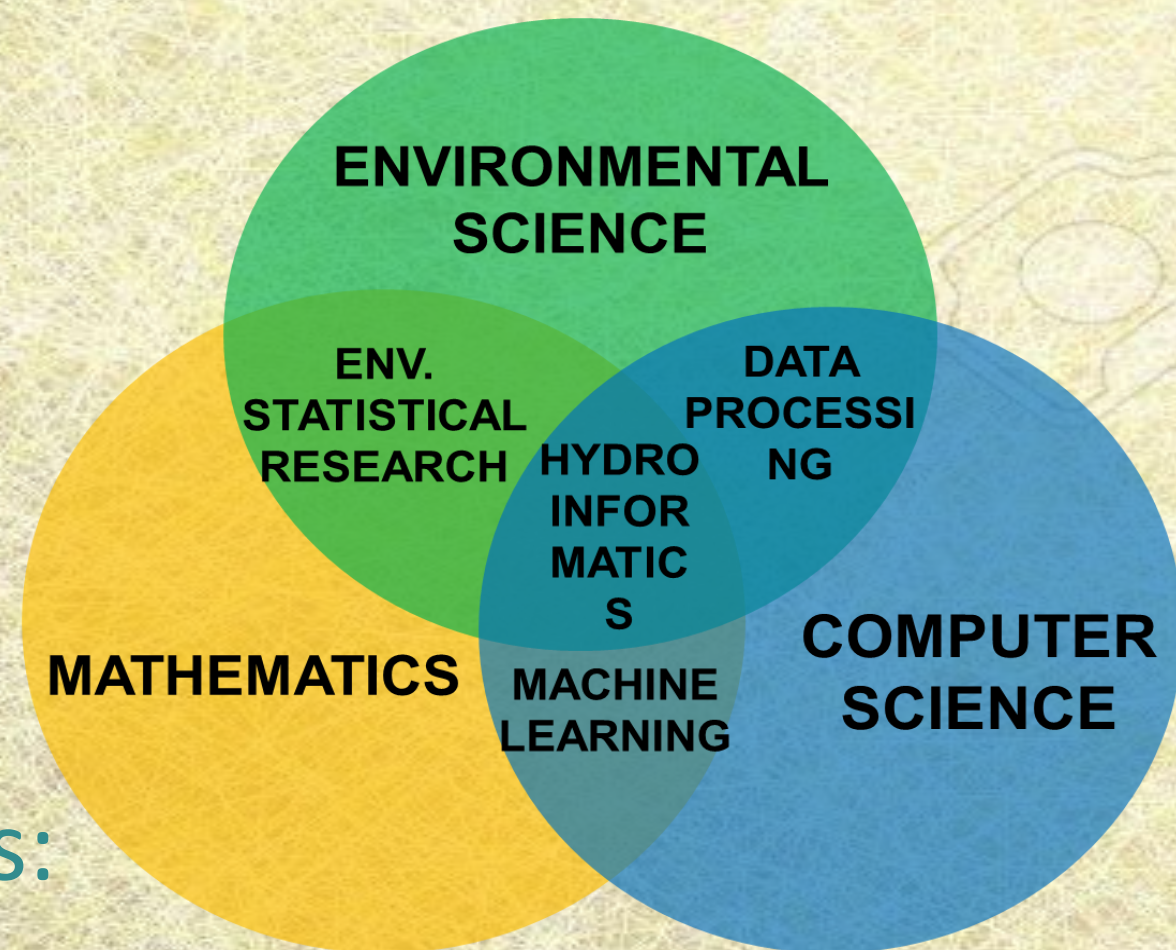
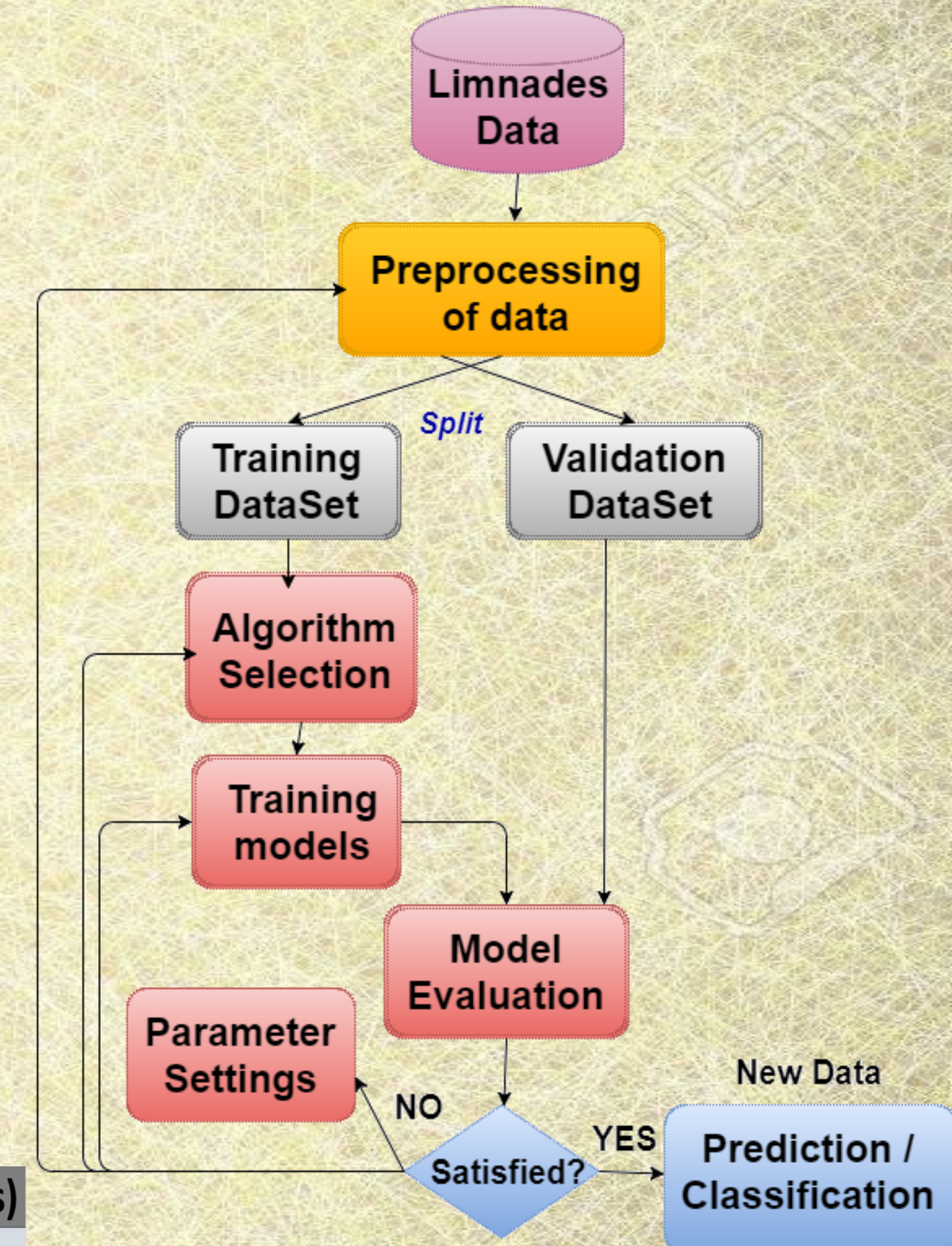


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Problem:

- Traditional water quality monitoring methods suffer from low spatial and temporal coverage, while the optical complexity that often characterises aquatic systems poses challenges to the effective application of Satellite remote sensing techniques.
- *Remote Sensing Data analysis* combined with *Machine Learning methods* is increasing due to the large amount of optical data that support ocean color studies and offers accurate results.
- Artificial Neural Network (**ANN**) algorithms are a suitable tool for the estimation of Water Parameters' concentration from remote sensor data.

Data & Methods



Lake Bio-optical Measurements & Radiometric data from almost 1500 inland systems ~ 4000 stations >250 lakes

Attributes	Prediction (Water Parameters)
Details (Location, ID)	Chlorophyll a
<i>In-situ</i> water measurements	Phycocyanin
12 WaveBands (400 –700 nm)	Total Suspended Matter
Class	Coloured Dissolved Organic Matter

Objectives:

- (1) New bio-optical algorithms for all water types and optically-complex waters
- (2) Accurate predictive Models for Inland waters and worldwide application

