

## Assignment#5

CH5650: Molecular Data Science and Informatic  
Jan-May, 2025

**Due Date: March 28, 2025 (Online Submission, <https://courses.iitm.ac.in/>)**

**Data:** The position coordinates of all the atoms in a  $\text{TiO}_2$  crystal are given along with the forces acting on them. There is a total of 7815 configurations of  $\text{TiO}_2$  crystals and their energy are provided. The data are in xsf (XCrysDen Structure File) format.

**Problem Statement:** Develop an ML model to predict the potential energy of  $\text{TiO}_2$  based on the given data.