**Mini-project Progress report**

**Date: 5/11/24**

**Project Title:** **Land Cover Classification Using Satellite Images**

**Project Description:** **This project aims to classify land cover types, such as urban, forest, water, and agriculture, using satellite images. The dataset, sourced from Sentinel-2, is preprocessed, and a Convolutional Neural Network (CNN) will be implemented to automate land cover classification. The goal is to build an accurate model for environmental and land-use monitoring.**

**Work done so far:**

**I have successfully downloaded the required dataset from the Copernicus Open Access Hub, focusing on images with minimal cloud cover for accurate analysis. I reviewed the Sentinel-2 spectral bands, understanding the importance of bands like Red (B4) and Near-Infrared (B8) for vegetation and land cover differentiation. Additionally, I studied the code structure and the preprocessing steps required, such as normalization and resizing of images. With a clear plan for implementing a CNN model, I am prepared for the data processing and model training stages.**

**Student’s Signature:**

**Student Name: Ansh Verma**

**Branch(in case of specialization): AI & ML**

**Section: ML**

**Roll No.:16**

**The report is: Satisfactory[ ] / Unsatisfactory[ ]**

**Supervisor’s Signature:**

**Supervisor Name: Dr. Hemant Singh Pokhariya**