USER GUIDE

This guide provides instructions for running the U-Net model trained for the ExMAD project. The model takes TIFF raster files as input and produces predictions for each image as output. Figure 1 illustrates the structure of the Python project.

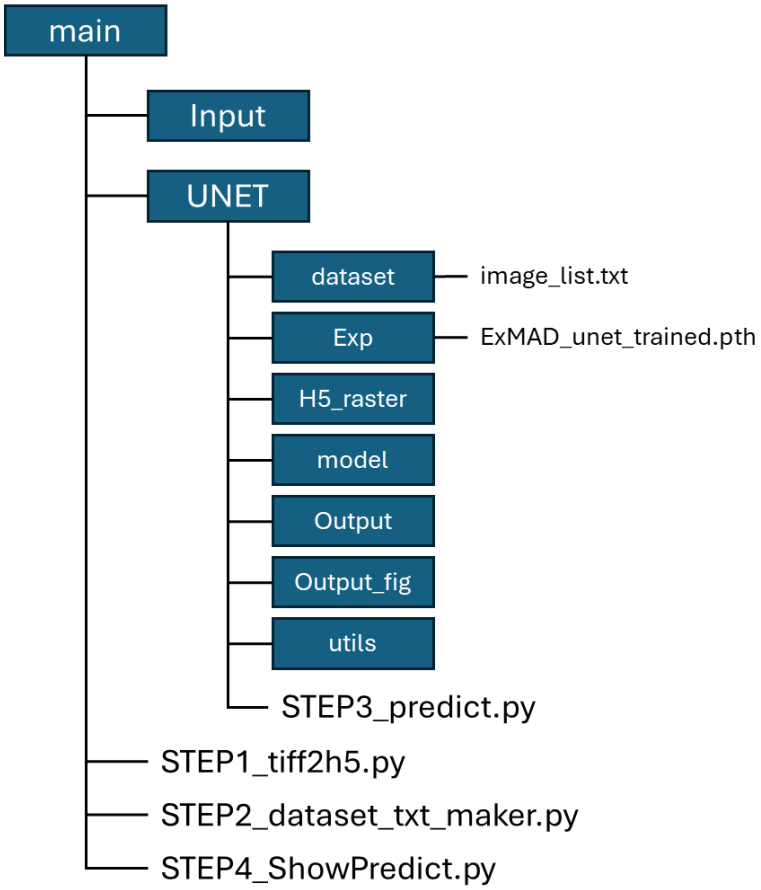

Figure 1: ExMAD main project structure.

STEP 1: Convert the TIFF input data into H5 format.

a) Copy your TIFF images to the “Input” folder.
b) Ensure that the “H5_folder” is empty; if not, delete any unwanted files.
c) Run the “STEP1_tiff2h5.py” script.

STEP 2: Create a text list of the H5 data.

a) Check that the “image_list” file is empty; if not, clear its contents and save.
b) Run the “STEP2_dataset_txt_maker.py” script.

STEP 3: Restore the trained U-Net model and run the semantic segmentation task for each image.

a) Ensure that the “Output” and “Output_fig” directories are empty; if not, delete any unwanted files.
b) Run the “STEP3_predict.py” script.

c) The prediction images will be saved in H5 format in the “Output” folder.

STEP 4: Plot and display the RGB images along with the predicted landslides.

a) Restart the Python kernel. Some libraries used in STEP 3 may conflict with the STEP 4 script.
b) Run the “STEP4_ShowPredict.py” script.
c) The RGB satellite images and predictions will be displayed in the Python environment and saved as PNG files in the “Output_fig” folder.