

Part 1 and Part 2:

I have implemented this part in “Satelitics.ipynb” and saved it in “Kathan_assignment” folder.
I have calculated the cosine similarity of the spectra of all pixels with the given “facility spectrum” and saved the output as an array of shape (653,502). The output is saved as “ans.npy” at “Kathan_assignment/data/ortho”

I have plotted the cosine similarity and saved the plot as “img1.png” at “Kathan_assignment/data/ortho”

I have plotted the masked image and saved the plot as “img2.png” at “Kathan_assignment/data/ortho”

Regression:

I have implemented this part as “regressor.py” and saved it in “Kathan_assignment” folder.

I have applied the model on test data and saved y_pred as “y_pred_test.npy” at “Kathan_assignment/data/ml”

I have discussed all my choices and the reasons behind them in the Python file itself.

Image Orthorectification:

I have wrapped the orthorectification procedure in a Python file names “Orthorectification.py”

Also, I have saved the rectified image as “rectified_img.tif” and saved it at

<https://drive.google.com/file/d/115ozaZZ8nmKQ2K7teEFcfZ3Vl6oXjPrF/view?usp=sharing>.