Graham Skeats

Project 3 Report

For this project I focused on detecting illegal mining sites in the satellite imagery. I tried a number of different approaches including using SIFT descriptors, LBP matching, and HOG features training a support vector machine in order to classify the images. However I wasn’t able to make any of these approaches work. The biggest challenge that I encountered was that there wasn’t enough training data available to make an appropriately balanced training and test set. I ended up chopping the large satellite image into a number of small images and trying to manually label the individual images if they contained mines or didn’t. Ultimately I thought that this would allow me to classify if for a given image it contained an illegal mining site or didn’t. Unfortunately the paucity of training data and actually the low number of total mines in the data set didn’t let me appropriately train a model to identify these sites.