CPSC 585, Project

Team Name: A2MR

Team Members:

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| --- | --- | --- | --- |
| Serial Number | Name | CWID | Email ID |
| 1 | Abhishek Mhatre | 893313585 | [abhishekmhatre@csu.fullerton.edu](mailto:abhishekmhatre@csu.fullerton.edu) |
| 2 | Anushree Ankola | 893259101 | [anushreeankola@csu.fullerton.edu](mailto:anushreeankola@csu.fullerton.edu) |
| 3 | Meetkumar Patel | 893546762 | [meetpatel06021996@csu.fullerton.edu](mailto:meetpatel06021996@csu.fullerton.edu) |
| 4 | Rishabh Sharma | 893463695 | [rishabh230795@csu.fullerton.edu](mailto:rishabh230795@csu.fullerton.edu) |

Under guidance of Dr. Venkatramanan Krishnamani

Artificial neural networks – CPSC-585

Department of Computer Science

California State University, Fullerton

Project Summary

Images that are taken from the satellites have a huge amount of information stored in them. One of the tasks is to extract that information. Satellite images have information of building, climates, oceans, mountains etc. To extract this information, we first must identify these locations. Once we can do that we can run multiple algorithms to extract the features or information from these images.

Our project focuses on identifying those locations. Complete project is divided into two parts. First is to identify if there is the desired element in the image. Second is that if the desired element is a part of our image than where is it located and to make a boundary around it.

The two parts are classification and segmentation.

For this course we are concentrating on classification part of the problem and we will try to achieve a higher accuracy with our images.

Method

Classification is one of the most challenging problems in machine vision. Human vision system helps us identify and classify what we see based on numerous features. We are trying to mimic that using a convolution neural network. This is a neural network that tries to mimic the visual cortex of human brain. The exact architecture of the network is yet to be decided.

The data is not available open source. So, the members of the team are manually collecting the data and are manually labelling the data using google maps.