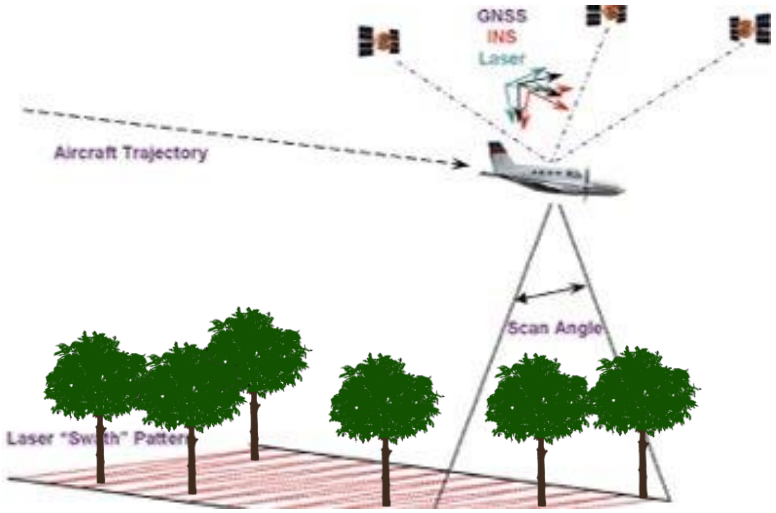
Problem Statement

Title
Count total number of trees and classify species of each tree identified in the forest from image or video data taken from UAV (Unmanned Aerial vehicle).

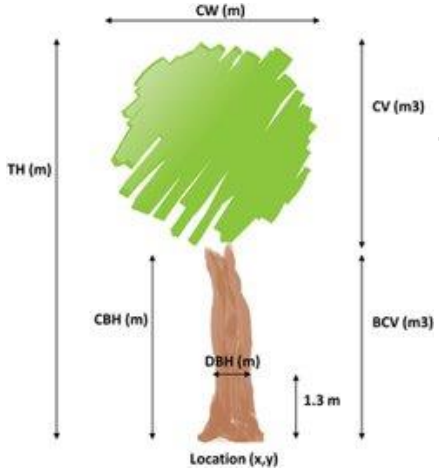
Category
Software

Precision Farming
Yamaha unmanned helicopters are designed for a wide range of industrial applications and have been operating commercially since 1991. Originally engineered for agricultural spray applications on rice paddies in Japan, Yamaha units are now utilized for applications on rice, wine grapes, invasive weeds, tree fruit, sugar cane, and volcanic sensing.
https://www.youtube.com/watch?v=ydfPzqaNkuA



Domain Bucket
Image Classification

Description
Automatic detection and species classification of individual trees using remotely sensed data (image or video). Species may include Sal Tree, Neem tree, Pine Tree etc. Compared to manned aircraft, UAVs are an easy-to-use, cost-effective tool for remote sensing of forests. Moreover, UAVs can fly near canopies and can take higher resolution images to accurately mark the forest inventory.

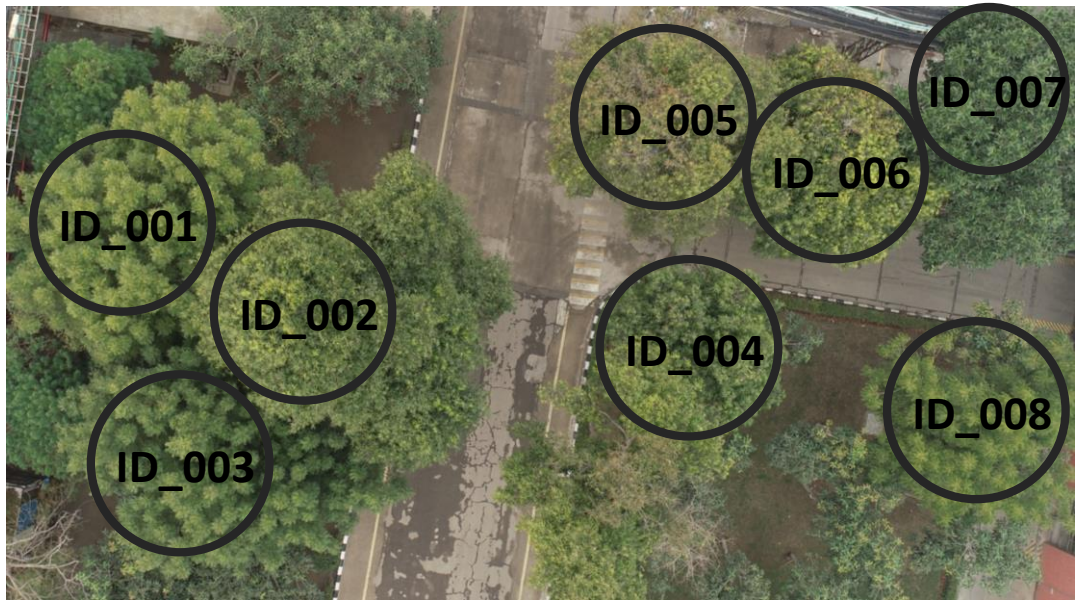


CW: Canopy Width
CV : Canopy Volume
TH : Tree Height
CBH: Crown base height
DBH: Diameter at Breast Height
BCV: Base Crown Volume

Input:

Image Data

Expected Result:



	A	B	C	D	E
1	Tree ID's	Tree 1 (Confidence %)	Tree 2 (Confidence %)	Tree 3 (Confidence %)	Species Classified
2	ID_001	66	14	20	Tree 1
3	ID_002	20	50	30	Tree 2
4	ID_003	4	70	26	Tree 2
5	ID_004	80	0	20	Tree 1
6	ID_005	33	46	21	Tree 2
7	ID_006	31	22	47	Tree 3