Project Report - Update – 27-08-2018

Tasks performed in previous report (26th July, 2018)

- 20, 000 Images were captured used GoPro camera with a standard resolution of 1280x720 pixels along 2 different forest trails in South India with camera set in 3 positions – Left, Right and Straight
- LabelBox had issued free academic license to create a dataset with 3 labels
- Structure of final CNN was decided with 7 layers with input image of 101x101 resolution

Tasks performed in this report (27th August, 2018)

- Dataset with 3000+ labels created using LabelBox software
- Images resized in local repository from 1280x720(rectangular) pixels to 101x101(square) pixels
- Following features where extracted from the images - Hu Moments, Haralick Texture and Color Histogram and the training time noted (Wall time : 483ms)
- Using these features the following ML methods were tested Logistic Regression, Linear Discriminant Analysis, K Neighbors Classifier, Decision Tree Classifier, Random Forest Classifier, Gaussian NB, SVC
- LR: 0.990909 (0.018182),KNN: 0.981602 (0.030353), RF: 0.981385 (0.022809) have the highest accuracy among all ML methods

Tasks to perform in final report (7th September, 2018)

- Use Principal Component Analysis to reduce the dimension of images rather than resizing & reshaping
- Build a CNN with 7 layers and check accuracy