Summer of Science

Plan of Action

Name: Ankith R

Mentor: Rwitaban Goswami

Topic: Computer Vision

Week 1: Basic Theory like pinhole camera model, camera calibration, homographies and image wraping from the book “Programming Computer Vision with Python”

Week 2: OpenCV basics from chapter 10 of the same book and a 4-hour OpenCV course by freeCodeCamp.org on Youtube

Week 3: Exploring non ML tasks like Harries corner detection, Canny edge detection and feature detection from articles in **towards data science** website

Week 4: Digit Recognition using MNIST dataset by building a ANN or CNN model using Pytorch library and submission of Midterm report

Week 5: Building a Sudoku solver using OpenCV and deep learning, the major task is to detect the sudoku grid from the image and extract the corresponding number in blocks with high accuracy

Week 6: Understanding YOLO (you only look once) and R-CNN algorithms and doing the object detection using a pre trained YOLO model available in the official website

Week 7: Image stitching and panoramic stitching using CV techniques, this was basically a assignment of LS computer vision

Week 8: Final report and completing any remaining work from previous weeks