



Webinar Topic: - Workshop on OpenCV.

Name of College: - A. P Shah Institute of Technology, Kasarwadavli,
Ghodbunder Road, Thane (Maharashtra)

Department: - Information Technology

Date: - 26/09/2021

Participants: - 31

Targeted Audience: Students of SE, TE, BE Information Technology

Speaker: -Mr. Varun Yerram

Mr. Varun Yerram who is a Research Intern at Chubu University, Japan and Deep Learning Intern at RethinkUX

Faculty Accompanied: -

- 1.) Prof. Kiran Deshpande
- 2.) Prof. Geetanjali Kalme

Aim of webinar: -

Following Topics were Explained by Varun->

- Introduction to Computer Vision
- Understanding Image and colour models
- Basic functionalities of OpenCV
- Drawing and writing texts on image
- Contours - Detection and Analysis
- Edge and corner detection
- Face Detection



Some Screenshots:

ABOUT ME

- Pre-Final Yearite at IIT Guwahati
- Research Intern at Chubu University, Japan
- Deep learning Intern at RethinkUX



YERRAM VARUN

OpenCV

Computer Vision Workshop

**SKILL UP
SEPTEMBER**



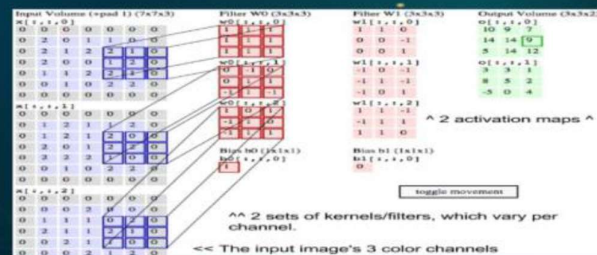
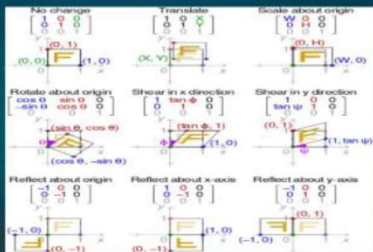
What is Computer Vision?

"Computer Vision is an interdisciplinary scientific field that deals with how computers can be made to gain high-level understanding from digital images or videos." -Wikipedia



What is Image Processing then?

"A method to perform some operations on an image to extract useful information from it"



HARRIS CORNER DETECTION


```
corners= cv2.cornerHarris(image, block size, k size, k )
```

Parameters

- ☐ **Image** - input image, should be grayscale and float32 type.
- ☐ **blockSize** - It is the size of neighbourhood considered for corner detection
- ☐ **ksize** - Aperture parameter of Sobel derivative used.
- ☐ **k** - Harris detector free parameter in the equation, usually, 0.04 and 0.06

FACE DETECTION

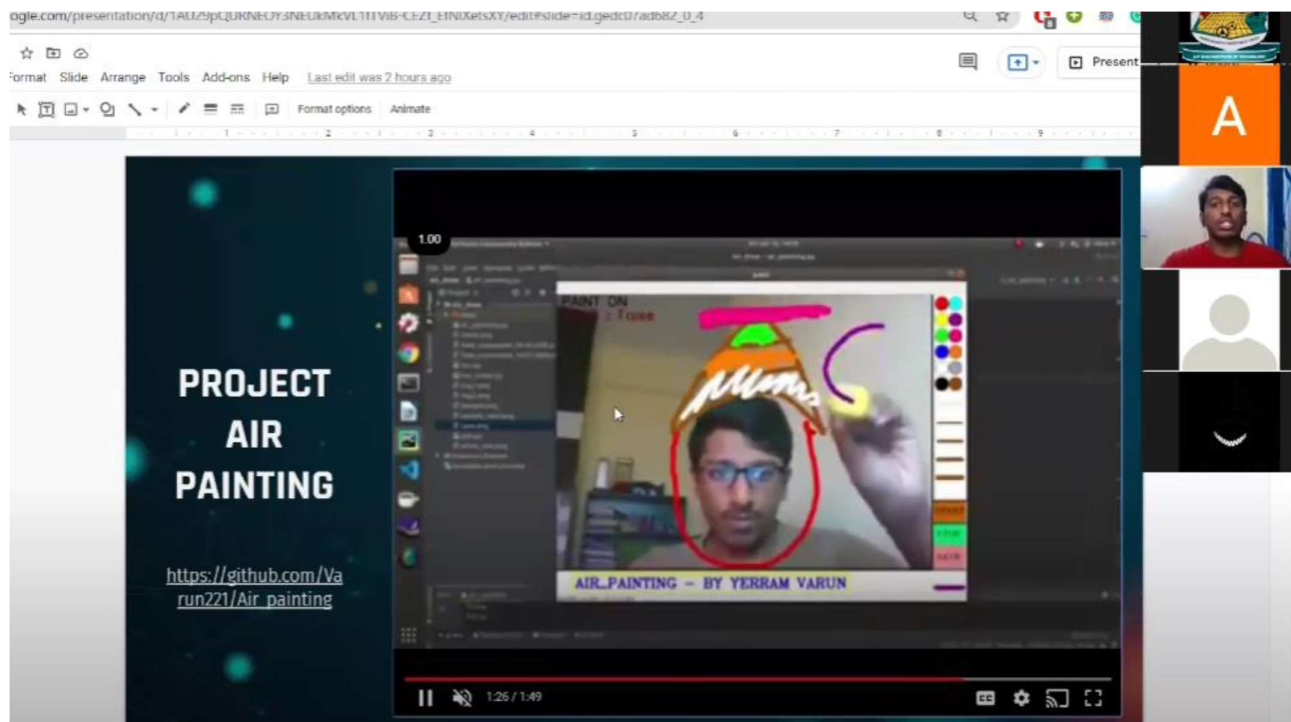
Object Detection using Haar feature-based cascade classifiers is an effective object detection method. It is a machine learning based approach where a cascade function is trained from a lot of positive and negative images. It is then used to detect objects in other images.



After Covering all these topics Varun showcased some of his projects: -

1. Project Air Painting

This application allows you to track an object's movement, using which the user can draw on the screen by moving the object around. It also contains a hold feature, in which by showing another object you stop the camera from painting. It is useful in painting disconnected drawings. You can select colours and brush sizes according to your choice, by bringing the object's pointer on the palette.

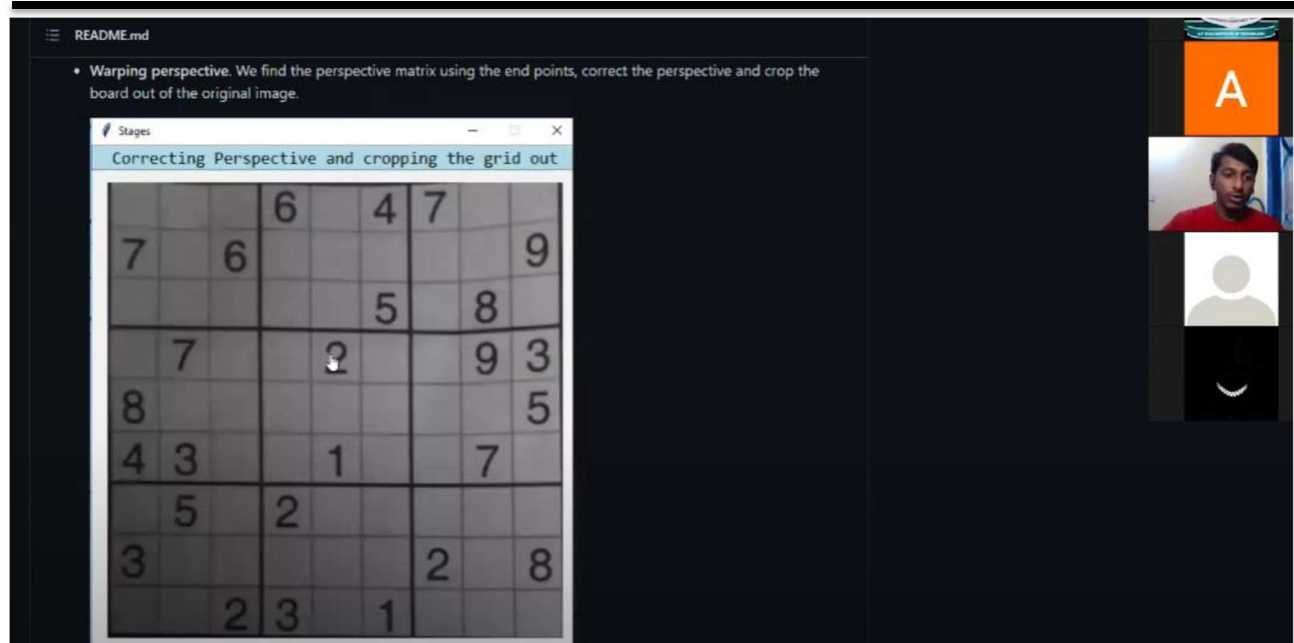


2. AI SUDOKU Solver

GUI based Smart Sudoku Solver that tries to extract a sudoku puzzle from a photo and solve it



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Recording:

<https://www.youtube.com/watch?v=H3shAnnO0zQ>