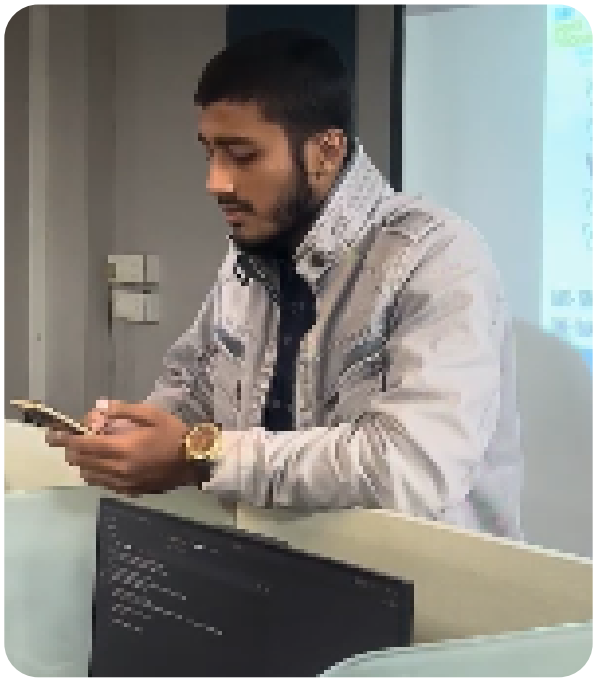
***Vision Quest*: An introduction to the libraries of OpenCV**

The IEEE SPS student chapter at the Muffakham Jah College of Engineering and Technology conducted a hands-on workshop on the usage of OpenCV libraries of Python on the 26th of July at the R&D Lab at MJCET. More than 25 students were in attendance for the event.

Initiation

The workshop was started at 11:00 AM with the recital of the verses of the Holy Quran and it's translation by Syed Umair, for an auspicious beginning to the event



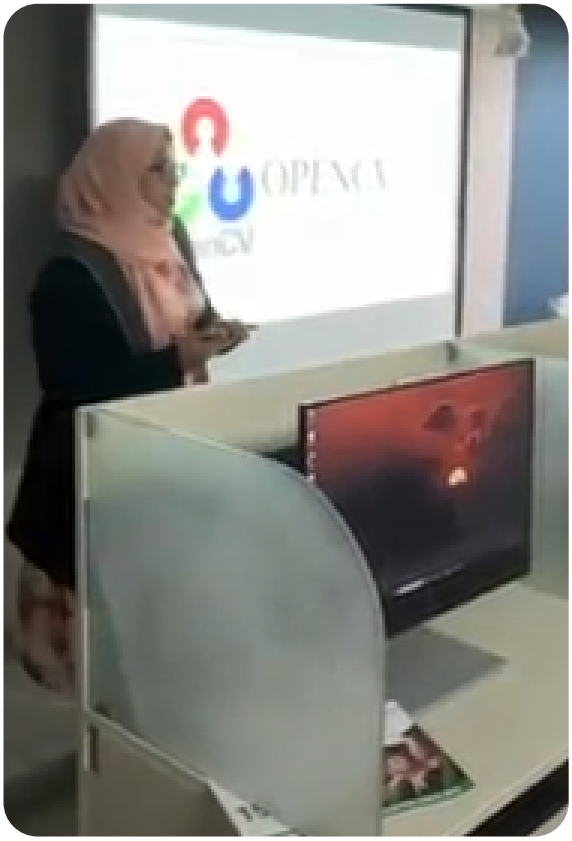
Introduction to SPS

The recital was followed by an introduction to Signal Processing and it's importance in technology and the modern age by Ikram Hyderi, Vice-Chair of IEEE SPS student chapter at MJCET

OpenCV basics and image processing

The Chair of IEEE SPS student branch at MJCET, Asma Khanam, began the introduction and explained the applications of OpenCV.

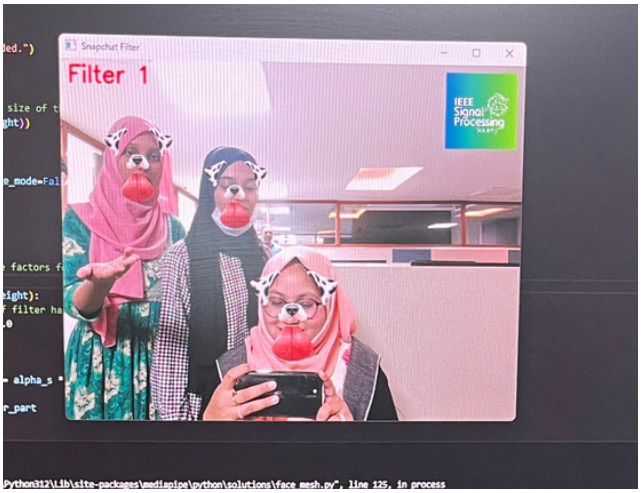
Image manipulation techniquies such as combining, adding, subtracting two images using modules such as cv2 and numpy were used. Each student present was able to have a hands-on experience with their own system

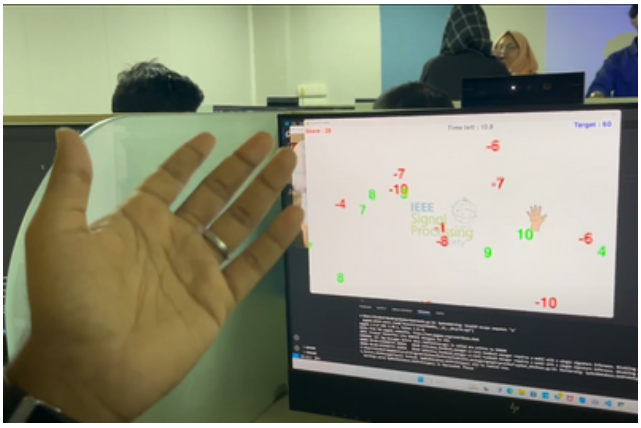


Special Project using video processing

After lunch, the special project was started by Mahaboob Sana, webmaster of IEEE SPS student chapter at MJCET. The project involved using facial detection, video processing and real-time processing modules and functions.

Students were able to effectively apply facial filters, creating snapchat filters and it’s applications from scratch using only OpenCV and it’s video processing modules in Python





Numbers game

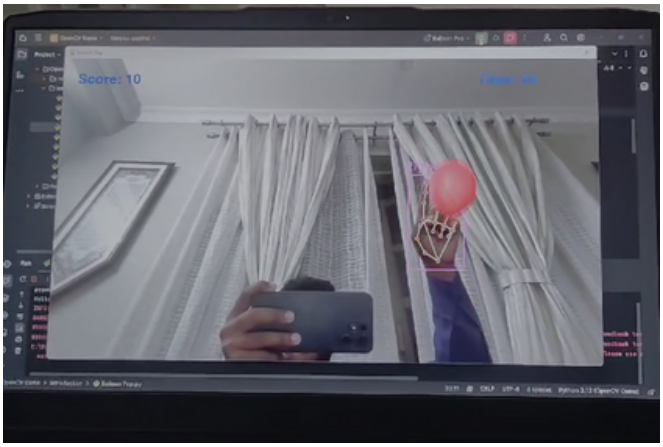
A numbers game which involved using the MediaPipe framework and the openCV and numpy libraries was made.

The MediaPipe framework was used for hand tracking functionalities, OpenCV for the image processing and Numpy for the numerical and array operations.

The attendees were able to create and play the game where hand tracking was used to capture numbers to score points.

Balloon pop game

A balloon pop game which involved the MediaPipe framework, OpenCV, numpy, pygame and the random library were used.



The MediaPipe framework was used for the hand tracking, OpenCV for the video processing, numpy for the array and numerical operations, pygame to generate the virtual environment and the random library to randomly generate the balloons.

All attendees were able to successfully execute the python programs for image and video processing, had a very fun and engaging time playing the games they made and got a worthwhile hands-on experience with the OpenCV library.

The first event of the IEEE Signal Processing Society student chapter at MJCET wrapped up by 3:45 PM and was a great success with the student chapter team preparing an entertaining and informative workshop. More such workshops, events and collaboration are planned in the coming months.