



**CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT,
ODISHA FDP**

on

"Fundamental of Image and Video Processing"

Date: 24-06-2021 to 29-06-2021

Resource Person

**Dr. Jharna Majumdar
Dr. Sasmita Kuamri Nayak
Mr. Nilamadhab Dash
Mr. Sudeep**

Centurion University of Technology and Management

Co-ordinator

Dr. Sujata Chakravarty

Department of Computer Science and Engineering

No. of Participants: 25

About the Session:

This session gives a brief introduction about Machine learning, image processing, Video Processing and its applications. In this session, hands-on training is provided each day for practice, which helps to use in various recent applications used in real-world applications.

Objectives:

- To introduce Machine learning and Video processing
- To introduce different ML techniques with different applications
- To implement various techniques of video and image processing

Outcome:

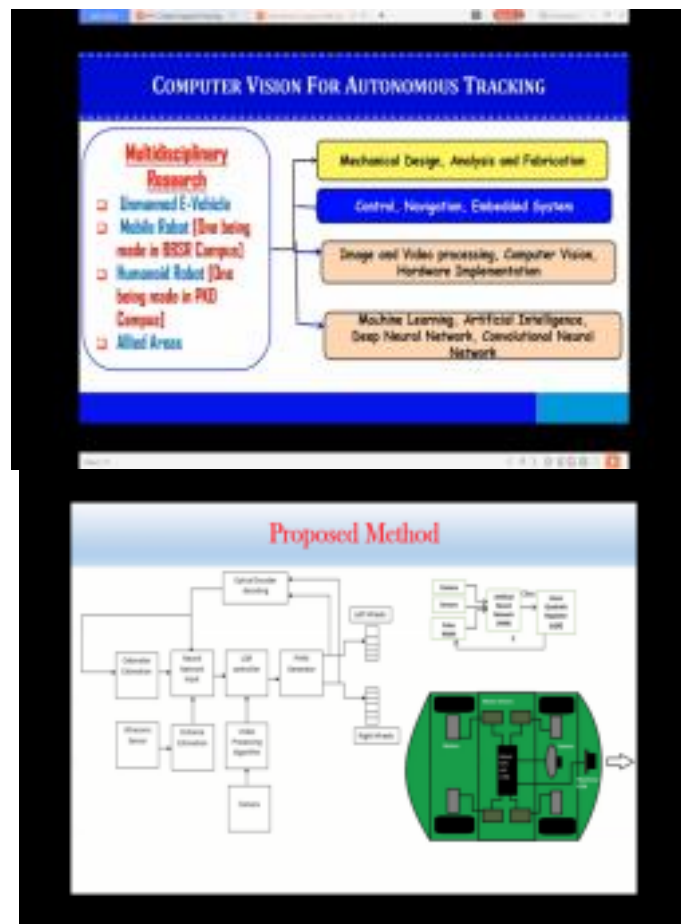
This session helps to design and implement various machine learning algorithms to use in real-world applications by gaining the knowledge of issues and challenges of machine learning. Also, it helps to implement the various issues of image and video applications.

Photographs of the event:

23-06-2021

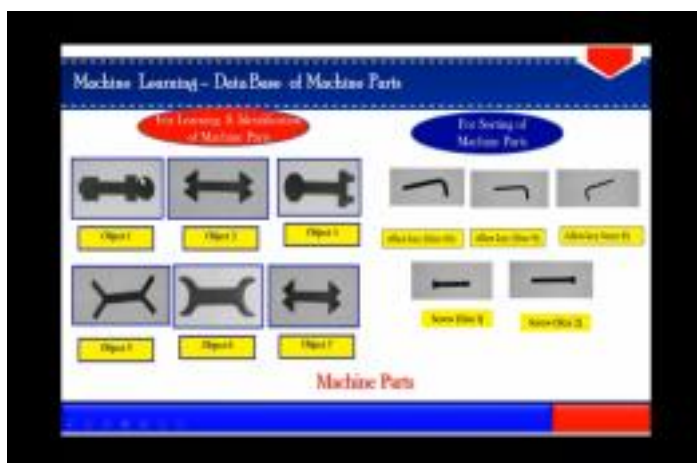
Computer vision for autonomous tracking by **Dr. Jharna Majumdar**

Design and Implementation of Neural network based Non-linear control system (LQR) for target tracking mobile robots by **Mr. Sudeep**



24-06-2021

Machine Learning and its Applications for Identification of Machine Parts, Medicinal Leaf and Diseased Leaf by **Dr. Jharna Majumdar**





25-06-2021

Introduction, Transition in Video, Machine Learning for Soft Transition in Video presented by **Dr. Jharna Majumdar**



Video Processing Research ... In Transition Domain	
Some of the Reported Research	
Konstantinos Vezizotidis, Alexis Bletsas, Leonidas Konstantaris, "Real Time Motion Changes for New Event Detection and Recognition", 2011	Real Time Motion Changes for New Event Detection and Recognition, proposes Laplace Transition as most accurate fit.
David Anurag and Manoj Ekavayal, "Improved Algorithm For Video Shot Detection", International Journal of Information Systems and Processing, Volume 1, Number 1, 2014	Proposed a new method of abrupt transition detection based on Weibull Distribution of each frame's gradient magnitude.
Yang Ming, Jingxin Han and Jun Wang, "Background Modeling and Subtraction Using a Local-Linear-Dependence-Based Cauchy-Statistical Model", 2009	Proposed a paper using a suboptimal background model based on Cauchy Statistical Distribution for the purpose of object detection.
Arvind R, Nandini G and S S G Krishna, "Motion Detection Using Cauchy Distribution And Smoothing Image Over Android Smart Phone Using Cam.Cost", 2014	Proposed a method of motion detection, where they used Cauchy Distribution model to derive the pixel of moving object in the detected moving video/frame.
M.A. Vinith Kumar and A. Kumaravel, "Object Motion Detection Using Background Matching Framework", 2011	Proposed a self-adaptive background matching method to select the background pixel and generate a binary mask using Cauchy Distribution model for Human Motion.

26-06-2021

Statistical properties of an image with hands-on presented by **Dr. Sasmitha Kumari Nayak, CSE.**

Learn Characteristics Properties of Histogram

Activate Windows
Go to Settings to activate Windows.

Brightness

A measure of the illumination of the image estimated by the global mean of the image

$$\text{Brightness, } M = \frac{\sum_{i=1}^m \sum_{j=1}^n \text{input}(i, j)}{m \times n}$$

m = height (no. of rows)
n = width (no. of column)

Activate Windows
Go to Settings to activate Windows.

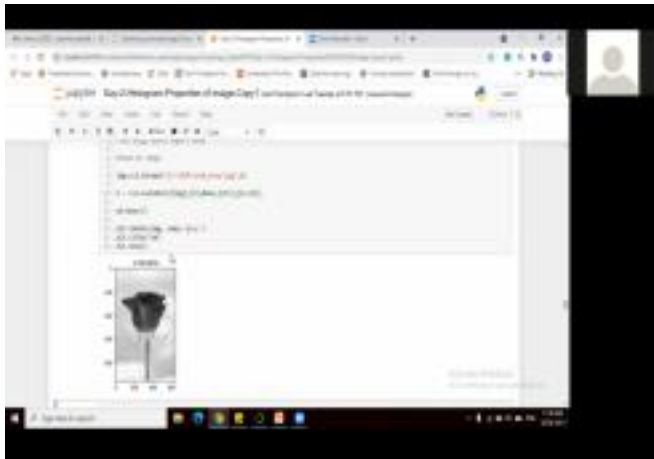
Task here to search

28-06-2021

Hands-on training on Learn moment and learn moment based characteristics properties of histogram of an image presented by **Dr. Sasmita Kumari Nayak, CSE.**

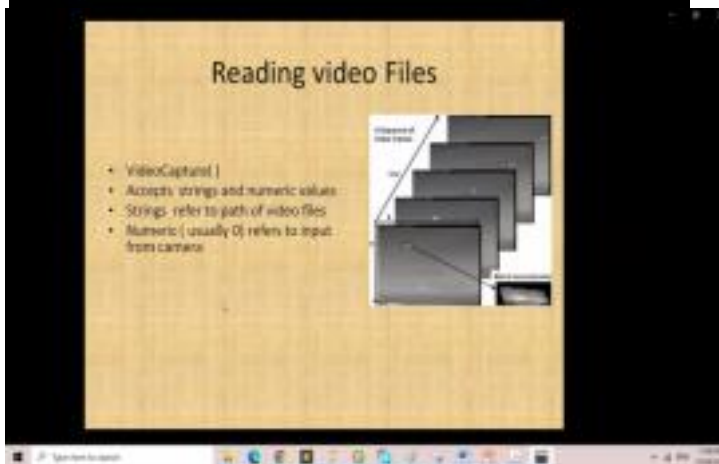
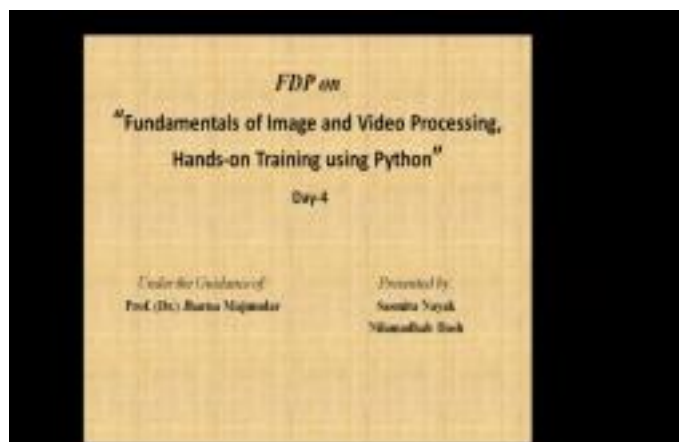
**Learn Moments and Learn
Moment Based Characteristics Properties of Histogram**

Activate Windows
Go to Settings to activate Windows.



29-06-2021

Hands-on training on Learn moment and learn moment based characteristics properties of histogram of an image presented by Mr. **Nilamadhab Dash**, CSE.





WORKSHOP ON

FDP on "Fundamental of Image and Video Processing"

24th June 2021 - 29th June 2021

Organized by:

Department of CSE

in collaboration with Center of Data Science and Machine Learning

Resource Person

Dr. Jharna Majumdar

Dr. Sasmita Kumari Nayak

Mr. Nilamadhab Dash

Mr. Sudeep

<https://zoom.us/j/93242623375?pwd=5IVITU5zWW5KSjduMXBrSWWhxSEZPUT09>

Meeting ID : 932 4262 3375 | Passcode : id2aXZ

centurion university of technology and management
Shaping Lives... Empowering Communities...

List of Participants

1	RITESH KUMAR NAHAK
2	DEEPAK KUMAR SAHU
3	SIBIL SARJAM SOREN
4	DUVVADA SAI KRISHNA
5	PRABIN KUMAR CHOUDHURY
6	RITESH KUMAR TARAI
7	M. RAMAKRUSHNA
8	SUMEET KUMAR SINGH
9	ASHUTOSH DASH
10	MOJJADA MORARJI
11	DEVADI ESWARA RAO
12	CHALLA PRADEEP KUMAR
13	KOTRA SAI DINESH
14	SAVARA NARESH KUMAR

15	BURAGAPU ESWARA KUMAR
16	JANNI PRASAD
17	UDAY KUMAR DEVKAR
18	TARLI KIRAN KUMAR
19	DUMMU MANOHARA RAO
20	DHRUTI SUNDAR PADHY
21	JYOTI RANJAN MOHANTY
22	JITENDRA PANIGRAHI
23	AUROBINDA BISWAS
24	ASHUTOSH PANIGRAHI
25	JEETENDRA KUMAR BISOI



Dr. Prasanta Ku. Mohanty
Dean Academic



Prof. KVD Prakash
Dean - IIE & HRD