

ADIKAVI NANNAYA UNIVERSITY

University College of Engineering

Department of Computer Science and Engineering



National Webinar Summary Report

**“Image Processing Based Methods for Diagnosis
of COVID-19”**

July 7th, 2020

Convener: Mrs.A.M.Sirisha

1. Introduction:

About AKNU:

Adikavi Nannaya University vision has a dream of achieving excellence in the near future and becoming a forerunner of designing and initiating novel programmes that are relevant to Godavari districts.

College of Engineering:

University College of Engineering was established since the inception of the university offers two post-graduate programmes MCA, M.Tech, (CST), and five graduate programmes B.Tech (CSE, IT, ECE, EIE, CIVIL, MECH). UCE also offers Ph.D. programs in the department of CSE.

The UCE excels with the potential of excellent faculty involved in diverse research areas. The objective of UCE is to nurture students to achieve excellence in various fields of technology and to be within the vicinity of industry demands combined with research-oriented thoughts. Students are progressively exposed to a gamut of subjects from core subjects to advance technologies which will make them competent enough in today’s era in the field of engineering technology.

About Department of CSE:

The Department of Computer Science has been established since the time of inception 2006. The Objective of the department is to achieve excellence in various fields of the technology and to be within the vicinity of industry demands combined with research-oriented thoughts.

The Department has good source of energy in the form of allied areas specialization by faculty in different domains like Cloud Computing, Data Science, Cryptography, Software Engineering, Biometrics, Image Processing, Forensics, Data Analytics, IoT etc. Computer Science and Engineering Department is proud to have students who participated in National & State level events like Hackathon and achieved awards from reputed institutions or organizations.

The Department of CSE offers PG programme (Master of Computer Applications) along with the UG programme (B.Tech) with the objective of providing training programs to the I.T industry. Though the Department has only 12 years of age the Ph.D awardees are above 12 (nearly 14) as on date.

The subjects of MCA and B.Tech are a combination of core and advanced technology which bridges the gap of Academic and Industrial demands. The Department is also proud to raise Adikavi Nannaya University flag worldwide by having the alumni working in USA, Dubai, France etc.

The Department of Computer Science& Engineering has initiated a department club (**Bit**) **Bring in Talent**. The aim of the club is to provide an opportunity to explore the technology, enrich talent & exhibit skills of each and every student under the club this is achieved through organizing different activities like Código Kill the bug, The mind Fizz, Presento, Talk a lot, Technizilla, Scibazar etc.,

Image processing is a method to perform some operations on an image in order to get an enhanced image or to extract some useful information from it. It is a type of signal processing in which input is an image and output may be image, its characteristics or features associated with that image.

Image processing is a technique to enhance raw images received from cameras, sensors placed on satellites, space probes and aircrafts or pictures taken in normal day to day life for various applications . Many techniques have been developed in image processing during last four to five decades. Image Processing systems are becoming popular due to easy availability of powerful personal computers, large size memory devices , graphic software’s etc.,

Image processing is used in various applications such as

1. RemoteSensing
2. Medicalimaging
3. Forensicstudies
4. Military
5. Materialscience
6. Textiles
7. Filmindustry
8. Documentprocessing
9. Graphicarts
10. Printing industry

Image Processing Methods

1. Image representation
2. Image analysis
3. Image Pre processing
4. Image enhancement
5. Image Restoration
6. Image Reconstruction
7. Image data compression

COVID-19 is worldwide epidemic as announced by the WHO in March- 2020. Image processing methods can play a vital role in identifying COVID- 19 patients by visually analyzing their chest and lung X-ray and CT images.

Objective of the Programme:

The objective of the National Webinar on “*Image Processing Based Methods for Diagnosis of COVID-19*” is to know the application areas of Image Processing and the methods that can be applied, specially on medical images which can assist in the diagnosis of COVID-19. It is an opportunity for researchers, faculty members, to enhance their knowledge about Image Processing and Computer Vision. This webinar is an interactive platform for the personnel, participants, and delegates.

2. Organizers:

Convener: Mrs.A.M.Sirisha

Organizing Committee: Faculty, Department of CSE

3. Resource Person:

Dr.U.S.N.Raju, Department of CSE , National Institute of Technology, Warangal (NITW).

4. Brief Bio-Data of Resource Person:

Dr.U.S.N.Raju, Department of CSE, National Institute of Technology, Warangal (NITW).

His Areas of Interest includes: Image Processing and Computer Vision

- He worked as a Software Engineer in INDIGO RDBMS Research and Development for two years (1999-2000).
- As an Academic Assistant at JNTU Hyderabad.
- As an Assistant Professor at Mahatma Gandhi Institute of Technology, Hyderabad.
- As an Associate Professor at Godavari Institute of Engineering and Technology, Rajahmundry.
- As a Professor at Rajeev Gandhi Memorial College of Engineering and Technology, Nandyal.
- Presently working at National Institute of Technology (NIT), Warangal.
- Published/presented around 50 papers in various National/International Journals/conferences.
- He is a Senior Member of IEEE, Fellow in Institute of Engineers India. He is a life Member in ISTE, CSI and ISCA, IEA.
- He has visited China, UK, Thailand, Taiwan, Malaysia, HongKong, and USA to present his research work.

Contact Address:

Dr.U.S.N.Raju

Department of Computer Science and Engineering


National Institute of Technology, Warangal - 506004,

Telangana, INDIA


Phone: 9440149146

usnraju@nitw.ac.in

5. Brochure:



ADIKAVI NANNAYA UNIVERSITY
ఆదికవి నన్నయ విశ్వవిద్యాలయము
RAJAMAHENDRAVARAM, ANDHRA PRADESH, INDIA - 533296.



National Webinar on

Image Processing Based Methods for Diagnosis of COVID-19

Organized by

Department of CSE University College of Engineering


Date:
07th July 2020

Time:
10:00 AM

Registration Details:

- No Registration Fee
- Registration Link:

or Scan for Registration:



- E-Certificate will be provided
- Last Date: 06th July 2020

Inaugural Address
Prof.M.JAGANNADHA RAO
Hon'ble Vice Chancellor

Valedictory Address
Prof.B.GANGA RAO
Registrar

Opening Remarks
Dr.V.PERSIS
Principal, UCE

Welcome Address
Dr.P.VENKATESWARA RAO
HEAD, Dept.of CSE

Speaker
Dr.U.S.N.RAJU
Dept.of CSE, NIT Warangal

Coordinator
Mrs.A.M.SIRISHA
Dept.of CSE

Organizing Committee
Faculty, Dept.of CSE

Contact Details:

D.Dasu, +91 9948677122, dasu.cse@aknu.edu.in
N.Rahul Pal, +91 8187820919, rahul.cse@aknu.edu.in

6. Programme Sheet:

Program Schedule on 7th July 2020, 10.00 AM to 12.00 PM

S.No	Time	Program
1	10.00 AM	Welcome Note by Mrs.A.M.Sirisha, Coordinator of the Webinar, Department of CSE, AKNU
2	10.02 AM	Opening remarks by Dr. V. Persis, Principal, University College of Engineering, AKNU
3	10.07 AM	Inaugural Address by Prof. M. Jagannadha Rao, Honorable Vice-Chancellor, AKNU
4	10.10AM	Speaker introduction by Mr.N.Rahul Pal, Assistant Professor, Department of CSE, AKNU
5	10.12AM	Session on Image Processing by Dr.U.S.N.Raju, Department of CSE, NITW
6	11.40AM	Speaker Answered Queries from Participants
8	11.50 AM	Valedictory Address by Prof.B. Ganga Rao, Registrar, AKNU
9	11.55 PM	Vote of thanks by Mrs.P.S.V.D.Gayathri, Assistant Professor, Department of CSE, AKNU
10	12.00 PM	End of the Program

7. Lecture Details: Dr.U.S.N.Raju, Department of CSE, National Institute of Technology, Warangal.

Abstract:

Image Processing is a technique to enhance raw images. Its uses has been increasing exponentially in the last decades. Image processing and Computer Vision are important and essential areas in today’s scenario. There are several Image Processing applications such as image analysis, image classification, and image segmentation. Image classification is achieved by extracting the important features from the images. The classification task is achieved using classifiers such as SVM. In contrast to hand crafted features, deep neural network based methods provides high performance in classifying the images according to the extracted features. Machine learning based methods to classify the chest x-ray images into COVID-19 patient class or normal case class. All of these efforts utilized Deep learning based approaches.

Number of participants: A total of 457 participants were registered from 5 different countries and 9 different states of India.

S.No	Country/State	Count
1	United States of America	4
2	United Kingdom	1
3	United Arab Emirates	1
4	England	1
5	New Zealand	1
6	Andhra Pradesh	407
7	Telangana	15
8	Bihar	13
9	Tamil Nadu	4
10	Jharkhand	3
11	Karnataka	4
12	Odisha	1
13	West Bengal	1
14	Pondicherry	1
Total		457

8. Publications of the Seminar/ Conference: Nil

9. External funding: Nil

10. The outcome of the Event: 1: The Participants can enhance knowledge on the subject of Image Processing, Computer Vision and Deep learning.

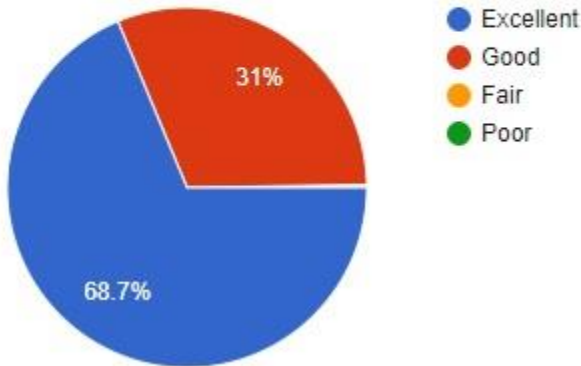
2. Research Scholars can utilize this National webinar for their research & Inter disciplinary Applications.

National Webinar Report on “Image Processing Based Methods for Diagnosis of COVID-19”

Feedback Report: As the feedback form is linked with the automatic generation of e-Certificates, the total responses were 374. The Feedback Reports for the session were displayed below.

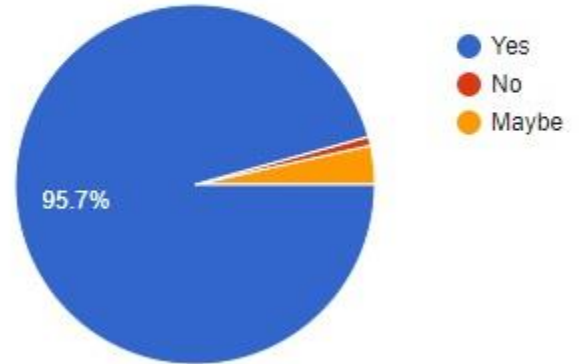
i) The Speaker was Knowledgeable

374 responses



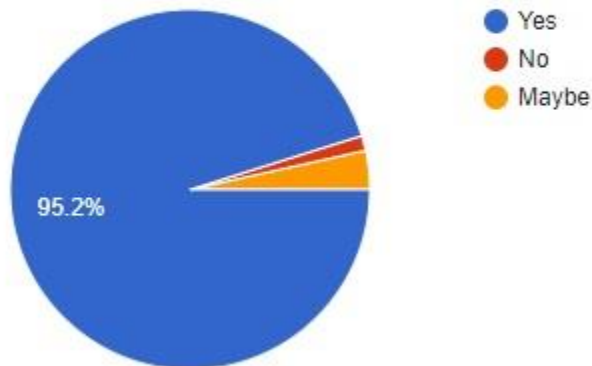
ii) The purpose of the Webinar was met

373 responses



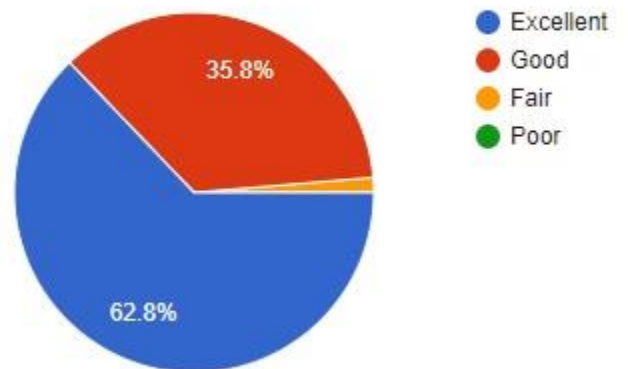
iii) My expectations of the webinar were met

373 responses



iv) This webinar was well organized

374 responses





11. e-Certificate:



ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM, ANDHRA PRADESH, INDIA - 533296
UNIVERSITY COLLEGE OF ENGINEERING
Department of Computer Science and Engineering

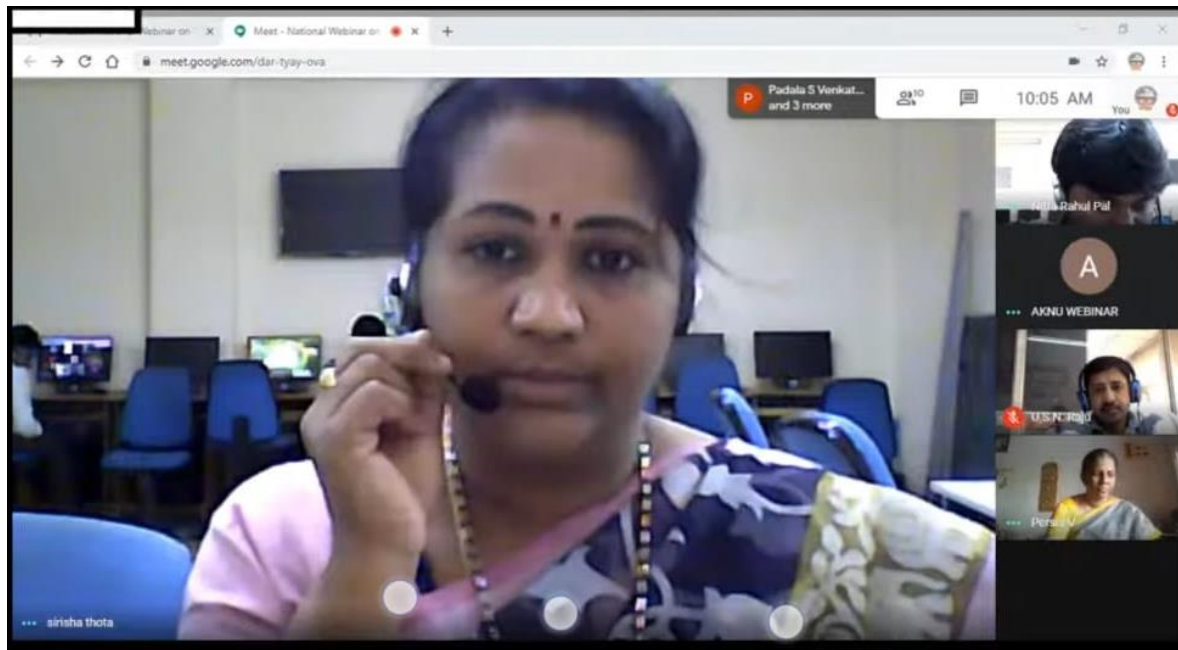
Certificate

This is to certify that _____
from _____
has participated in the national webinar on “Image Processing Based Methods for Diagnosis of COVID-19”
organized by Department of Computer Science and Engineering, University College of Engineering, Adikavi
Nannaya University on 7th July, 2020.

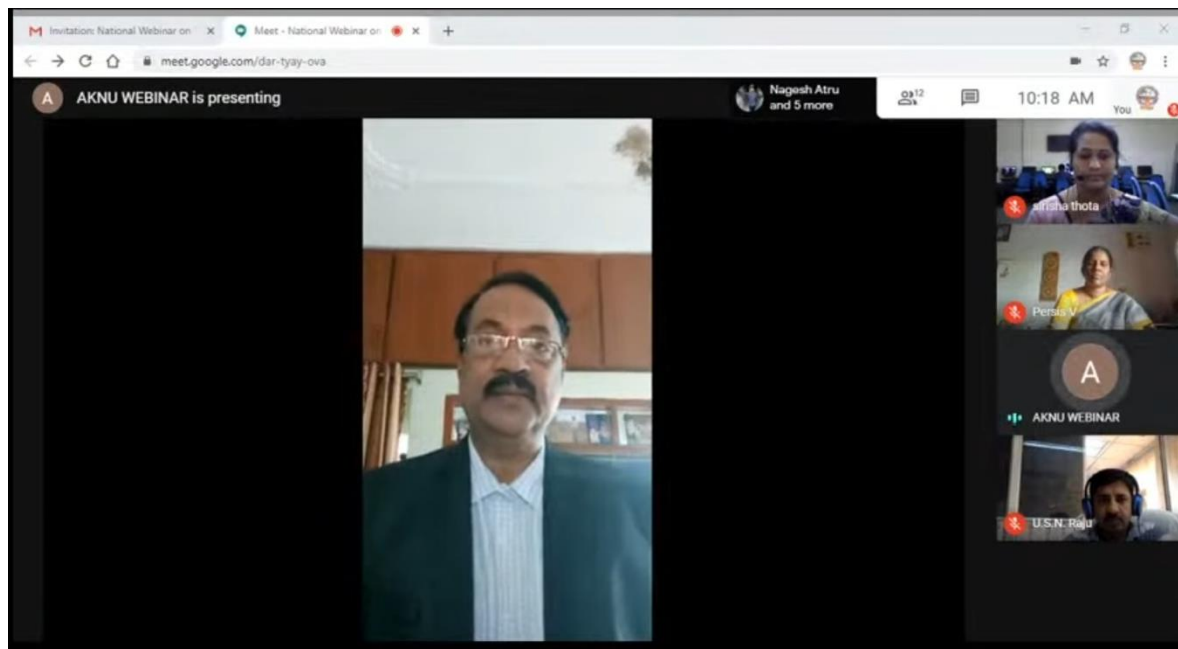
 _____ Mrs.A.M.Sirisha Convener, Dept.of CSE	 _____ Dr.P.Venkateswara Rao HOD, Dept.of CSE	 _____ Dr.V.Persis Principal, UCE
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National Webinar Report on “Image Processing Based Methods for Diagnosis of COVID-19”

12. Photo Gallery:

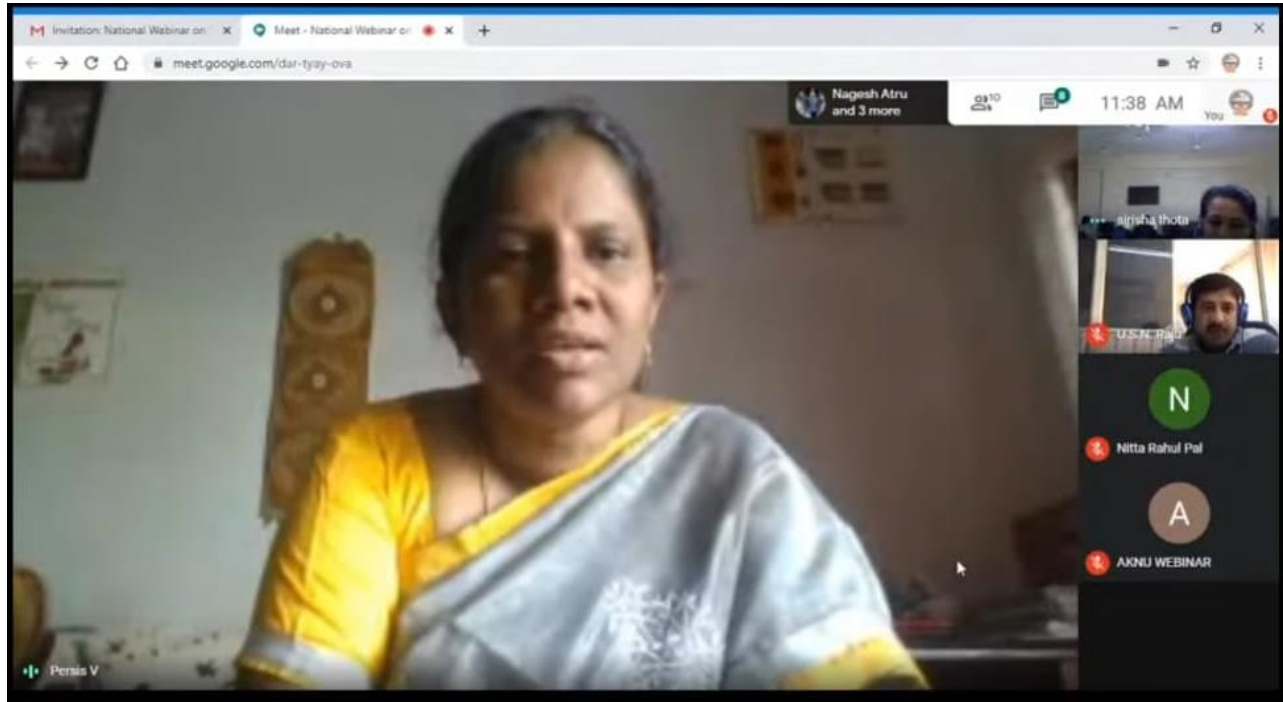


Welcome Note by Mrs.A.M.Sirisha, Coordinator of the Webinar, Department of CSE, AKNU

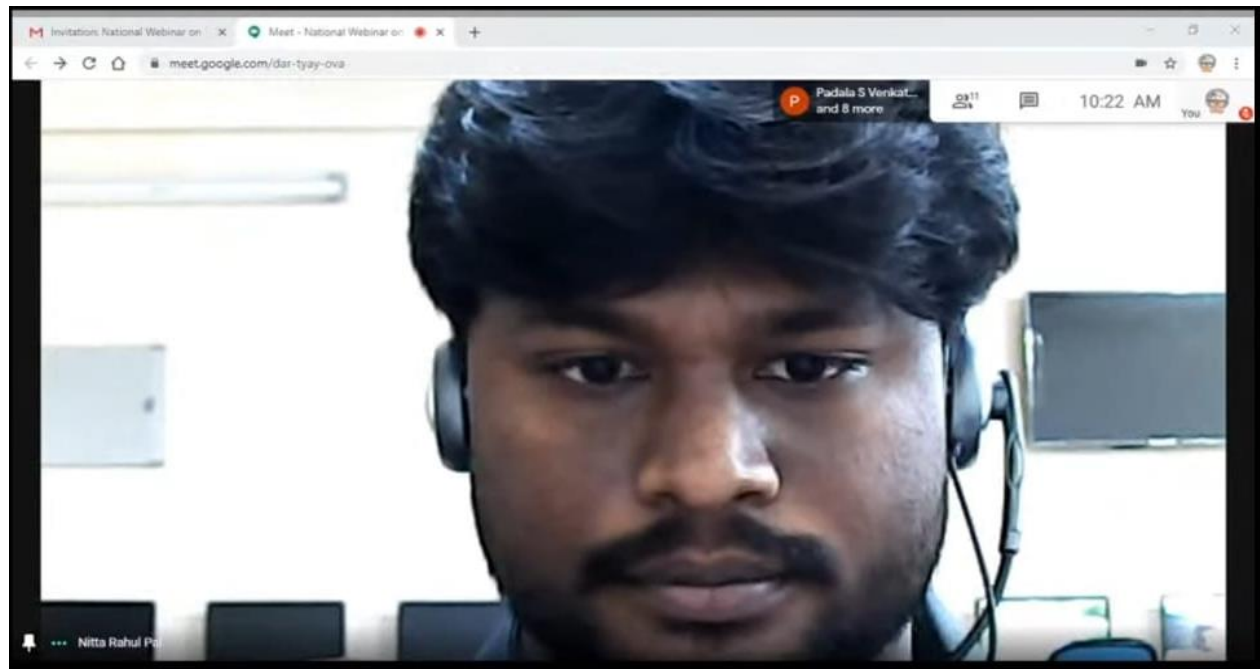


Inaugural Address by Prof. M. Jagannadha Rao, Honorable Vice-Chancellor, AKNU

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Opening remarks by Dr. V. Persis, Principal, University College of Engineering, AKNU

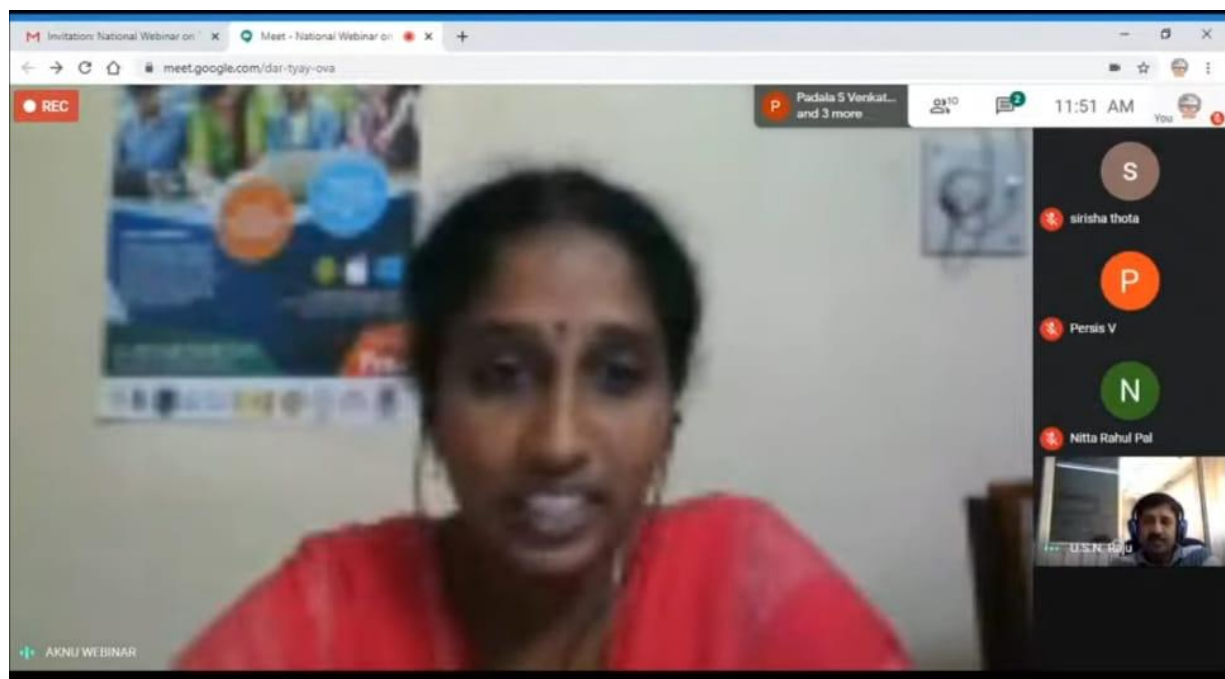


Speaker introduction by Mr.N.Rahul Pal, Assistant Professor, Department of CSE, AKNU

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Session on Image Processing by Dr.U.S.N.Raju, Department of CSE, NITW



Vote of thanks by Mrs.P.S.V.D.Gayathri, Assistant Professor, Department of CSE, AKNU


13. Paper Clippings:

ఇమేజ్ ప్రాసెసింగ్ లో పరిశోధనలకు ఎక్కువ అవకాశాలు

రాజానగరం: ఇమేజ్ ప్రాసెసింగ్ విధానంలో పరిశోధనలకు ఎక్కువ అవకాశాలున్నాయని, వాటిని భావి పరిశోధకులు సద్వినియోగం చేసుకోవాలని నన్నయ యూనివర్సిటీ వీసీ ఆచార్య ఎం.జగన్నాథరావు సూచించారు. యూనివర్సిటీలో డిపార్టుమెంట్ ఆఫ్ కంప్యూటర్ సైన్స్ అండ్ ఇంజనీరింగ్ ఆధ్వర్యంలో ‘ఇమేజ్ ప్రాసెసింగ్ బేసిడ్ మెథడ్ ఫర్ డయాగ్నోసిస్ ఆఫ్ కోవిడ్ 19’ అనే అంశం పై మంగళవారం వెబినార్ నిర్వహించారు. సీఎస్ఈ అధ్యాపకురాలు ఏఎం శిరీష కన్వీనర్ గా వ్యవహరించారు. రిజిస్ట్రార్ ఆచార్య బి.గంగారావు, డాక్టర్ వి.పెర్నిస్, డాక్టర్ పి. వెంకటేశ్వరరావు పాల్గొన్నారు.

ఇమేజ్ ప్రాసెసింగ్ లో ఎక్కువ అవకాశాలు

దివాన్ చెరువు, జూలై 7: ఇమేజ్ ప్రాసెసింగ్ విధానంలో పరిశోధనలకు ఎక్కువ అవకాశాలున్నాయని ఆదికవి నన్నయ విశ్వవిద్యాలయం ఉప కులపతి ఆచార్య మొక్కా జగన్నాథరావు తెలిపారు. సీఎస్ఈ విభాగం ఆధ్వర్యంలో మంగళవారం ‘ఇమేజ్ ప్రాసెసింగ్ బేసిడ్ మెథడ్ ఫర్ డయాగ్నోసిస్ ఆఫ్ కోవిడ్-19’ అంశంపై జాతీయ వెబినార్ నిర్వహించారు. సీఎస్ఈ అధ్యాపకురాలు ఏఎం శిరీష కన్వీనర్ గా వ్యవహరించిన సదస్సులో వీసీ మాట్లాడుతూ ప్రపంచాన్ని వణికిస్తున్న కోవిడ్-19 తీవ్రతను అంచనా వేయడానికి ఈ విధానం ఎంతో ఉపయోగపడుతుందన్నారు. భావిపరిశోధకులు ఈ విధానంపై పూర్తి అధ్యయనం చేసి, పరిశోధకులుగా ఎదగాలని ఆకాంక్షించారు. కార్యక్రమంలో రిజిస్ట్రార్ ఆచార్య బి.గంగారావు, ప్రిన్సిపాల్ పెర్నిస్, ఎన్ఐఐటీ వరంగల్ అధ్యాపకులు యూఎస్ రాజు, వెంకటేశ్వరరావు పాల్గొన్నారు.

ఆంధ్రజ్యోతి Wed, 08 July 2020 
<https://epaper.andhrajyothy.com>

సాక్షి Wed, 08 July 2020 
<https://epaper.sakshi.com/c/53436504>

07-July-2020 in Sakshi and Andhrajyothy papers-East Godavari district editions.

ఇమేజ్ ప్రాసెసింగ్ లో పరిశోధనలకు అవకాశాలు

నన్నయ విశ్వవిద్యాలయం: ఇమేజ్ ప్రాసెసింగ్ లో పరిశోధనలకు ఎక్కువ అవకాశాలు ఉన్నాయని, వాటిని భావి పరిశోధకులు సద్వినియోగం చేసుకోవాలని ఆదికవి నన్నయ విశ్వవిద్యాలయం ఉపకులపతి ఆచార్య మొక్కా జగన్నాథరావు పేర్కొన్నారు. వర్సిటీలోని కంప్యూటర్ సైన్సు విభాగం ఆధ్వర్యంలో మంగళవారం ‘ఇమేజ్ ప్రాసెసింగ్ బేసిడ్ మెథడ్ ఫర్ డయాగ్నోసిస్ ఆఫ్ కోవిడ్-19’ అనే అంశంపై వెబినార్ నిర్వహించారు. దీనికి వీసీ హాజరై ముఖ్య ఉపన్యాసం చేశారు. ప్రపంచాన్ని వణికిస్తున్న కరోనాను అంచనా వేయడానికి ఇమేజ్ ప్రాసెసింగ్ విధానం ఎంతో ఉపయోగపడుతుందన్నారు. ఎక్స్రే, సిటీ స్కాన్ ఇమేజ్ లను ఈ విధానంలో చూడడం ద్వారా శరీరంలో వైరస్ తీవ్రతను అంచనా వేయవచ్చన్నారు. ఈ కార్యక్రమంలో వరంగల్ ఎన్ఐఐటీ అధ్యాపకుడు యూఎస్ ఎన్ రాజు, రిజిస్ట్రార్ ఆచార్య గంగారావు, ప్రిన్సిపాల్ వి. పెర్నిస్, పి. వెంకటేశ్వరరావు, ఎం. శిరీష తదితరులు పాల్గొన్నారు.

07-July-2020 in Eenadu paper-East Godavari district edition.