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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

# NEXUS

## VISION

- To be a pacesetter in the field of Electronics and Communication Engineering.

## MISSION

- To provide quality education for the students in the field of Electronics & Communication Engineering.
- To educate students about professional and ethical responsibilities and train them to build life skills for their career development.

## THIS ISSUE



## HOD DESK

**Prof. Dr. Anto Sahaya Dhas**

Quality in the engineering education is the development of intellectual skills and knowledge that will equip graduates to contribute to society through productive and satisfying engineering careers as innovators, decision makers and leaders in the global economy of this century. A quality engineer can obviously be created only through quality engineering education. As a part of ensuring the quality of our system, I am happy to share that our department is accredited by NBA. I extend my heartfelt thanks to the Management, Principal, Teaching and non-teaching staff members of our department, supporting staffs, my dear Students, Alumni, Employers and Parents for your support during the entire process of accreditation.

By providing every student with a quality education, and the materials they need for class and to do their homework, we can help students from all backgrounds learn and thrive.
- London Nicole Breed

Prof. Dr. Anto Sahaya Dhas
Head of Department
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# 8K High Resolution Camera System

ARTICLE

Digital cinema is a promising application that utilizes high-speed optical networks to transfer super high definition (SHD) images. The networks are primarily used for distributing digital cinema contents in packet data form, and are also used to support new services such as the live streaming of musicals and sport games to movie theaters.

While current transfer services offer high-definition (HD) quality video, live-streaming applications will soon shift to providing cinema quality 8K content to both business and movie theaters users.


Four years before the digital cinema industry standardized the DCI specification, in 2001, the worlds first video JPEG decoder system was developed that could display SHD images (38402048 pixel spatial resolution) with 24-frames/s time resolution. This decoder was designed to realize IP transmission of extra-high-quality videos, while fully utilizing the full bandwidth of emerging commercial communication networks based on 1-Gb Ethernet. In 2002, the second prototype SHD image decoder was developed that exploits a highly parallel processing unit of JPEG2000 de-compressors.

The decoder receives the IP streams of compressed video contents transmitted by a video server over a 1-GbE network, and decodes them using the standard JPEG2000 decoding algorithm in real time. This architecture allows the decoded videos to be transferred and shown in completely digital form.

Currently, standardization activities are in progress at the Society of Motion Picture and Television Engineer (SMPTE). To explore the application range of 8K video beyond digital cinema, we developed a JPEG2000-based 8K real time streaming codec system. This codec can compress/ decom- press 8K videos: the total bit rate exceeds 12 Gb/s (4 : 2 : 2, 60 frames/s), and the resulting 5001000-Mb/s compressed streams are transferred as IP packets.

While digital cinema em- ploys the 24-frames/s movie format to replicate the cinema style, it is believed that at least 60 frames/s is needed for realistic video communication services such as teleconferencing. The following sections describe the features of the 8K imaging systems used in digital cinema and live streaming.

Ksheera Sajeesh
VML20EC032

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We are proud to announce that the

## B.Tech Program ELECTRONICS & COMMUNICATION

of Vimal Jyothi Engineering College is accredited by NBA

# ECE

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*Congratulations to one and all and thank you for your support*

# PUBLICATIONS

## Book Publication

- Ms Sudharsana Vijayan has Published a Text Book “Constitution Of India” Based on Fourth semester KTU curriculum.

## Paper Presentation

- Ms Bindu Sebastian has presented a paper “IOT Based Secure Manhole Monitoring and Detection system” at the International conference on Machine Intelligence and Research Development Organized by Sree Narayana Gurukulam College of Engineering In Association with KUFOS.
- Ms Anusha Chacko has presented a paper “Smart Trolly System with QR Code Decrypting Technique” at the International conference on Machine Intelligence and Research Development Organized by Sree Narayana Gurukulam College of Engineering In Association with KUFOS.

# FACULTY DEVELOPMENT PROGRAMME

- Ms Anusha Chacko has participated in One week Online FDP Program on “Computer Vision and Deep Learning” Organized by Department of Computer Engineering at V E S Polytechnic in Association with CSI Chapter.

# STUDENT CORNER

- Mr Abhilash C, Mr Albo Joseph K, Mr Amrithesh Gopinath and Mr Meldine Domine were presented a paper “Smart Trolly System with QR Code Decrypting Technique” at the International conference on Machine Intelligence and Research Development Organized by Sree Narayana Gurukulam College of Engineering In Association with KUFOS.

# PTA

- PTA meetings were conducted for all the students except final year students for discuss their Academic and Non academics performance through offline mode. And to encourage the students for academic betterment. All semester ECE toppers of first series were congratulated during the event.

# MOMENTS OF ARTS

# MOMENTS OF SPORTS

# UPCOMING EVENTS

- As part of Kerala Technical university curriculum, the S6 ECE (2019-23), S4 ECE (2020-2024) and S2 ECE (2021-2025) students of Electronics and communication department had decided to conduct an Industrial Visit to get an exposure to the industrial environment. S6 ECE has decided their destination as Goa, S4 ECE to Banglore and S2 ECE to Kannur. All the very best to students who are actively participating and make it a memorable one.

# PLACEMENT CORNER

## PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

1. Graduates will have successful career in the field of Electronics and Communication Engineering and allied sectors
2. Graduates will have the ability to pursue higher studies and research
3. Graduates will demonstrate entrepreneurial skills to develop innovative products and services
4. Graduates will adapt to different roles in global working environment by respecting diversity and professional ethics

## EDITORIAL BOARD