



Koneru Lakshmaiah Education Foundation

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17-10-2020

Webinar on HIGH EFFICIENCY VIDEO ENCODING

Circular:

Guest Lecture on "HIGH EFFICIENCY VIDEO ENCODING" by Department of ECE, KLEF –Reg.

Registrar <registrar@kluniversity.in>

Wed 10/14/2020 1:08 PM

To: KLU Chancellor <chancellor@kluniversity.in>; PRESIDENT <president@kluniversity.in>; Havish <havish@kluniversity.in>; Raja H Koneru <krh@kluniversity.in>; konerurajaharin@gmail.com <konerurajaharin@gmail.com>; Dr. S S Mantha <ssmantha@kluniversity.in>; ssmantha33@gmail.com <ssmantha33@gmail.com>; Chancellor Office <chancelloroffice@kluniversity.in>; Dr.Venkat <drvenkat@kluniversity.in>; Pro Chancellor Office <prochancelloroffice@kluniversity.in>; Vice Chancellor - KLU <vc@kluniversity.in>; Dr. LSS Reddy <drssreddy@kluniversity.in>; Dr.Ramakumar Ambatipudi <dramakumara@kluniversity.in>; N Venkat Ram <venkatram@kluniversity.in>; Dean Academics <dean.academics@kluniversity.in>; DR G.P SARADHI VARMA <gpsvarma@kluniversity.in>; Pro-VC-Academics <provc-academics@kluniversity.in>; Pro-VC-Academics Office <pro-vc-academicoffice@kluniversity.in>; Office Of Pro-VC <provcoffice@kluniversity.in>; Dr Y V S S V Prasada Rao <prasadarao_yvssv@kluniversity.in>

1 attachments (6 MB)

ECE Guest lecture poster.jpg

Ref: KLEF/RO/HOD-ECE/2020-21
10-2020

Date: 14-

Orders of the Vice-Chancellor dt.14-10-2020

CIRCULAR

Sub: Guest Lecture on "HIGH EFFICIENCY VIDEO ENCODING" by Department of ECE, KLEF –Reg.

Ref: Letter dated 14.10.2020 from Dr.P. Lakshman, Dy.HoD.

This is to inform that Department of ECE, KLEF is organizing a guest lecture titled "HIGH EFFICIENCY VIDEO ENCODING", by Mr. SWAROOP CHANDA, distinguished Software Engineer, COMMSCOPE INC, U.S.A., as the speaker at 11:00 a.m. on 17th October 2020 for all the faculty members of KLEF both campuses.

Registration link of the webinar is given below.

<https://forms.gle/YQfTADyj2nNmaLEf7>

Poster of the webinar is attached herewith. E-certificate will be provided to the attendees.

For further details, Mrs. V.Teju, Assistant Professor, Mobile No. +91 9948150940 or Guest Lecture In-charge, Dr. Arjuna Muduli, Mobile No.+91 7017151266 can be contacted.

REGISTRAR

Encl: Poster

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KLEF

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Head (Research Consultancy & Smart Campus)-Dr.Vinay Kumar Mittal

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Mail to: All faculty

Thanks & Regards



Prof. Y. V. S. S. V. Prasada Rao

Ph.D(Mech. Engg.), DPM., MBA (Fin & HR), FICWA

REGISTRAR

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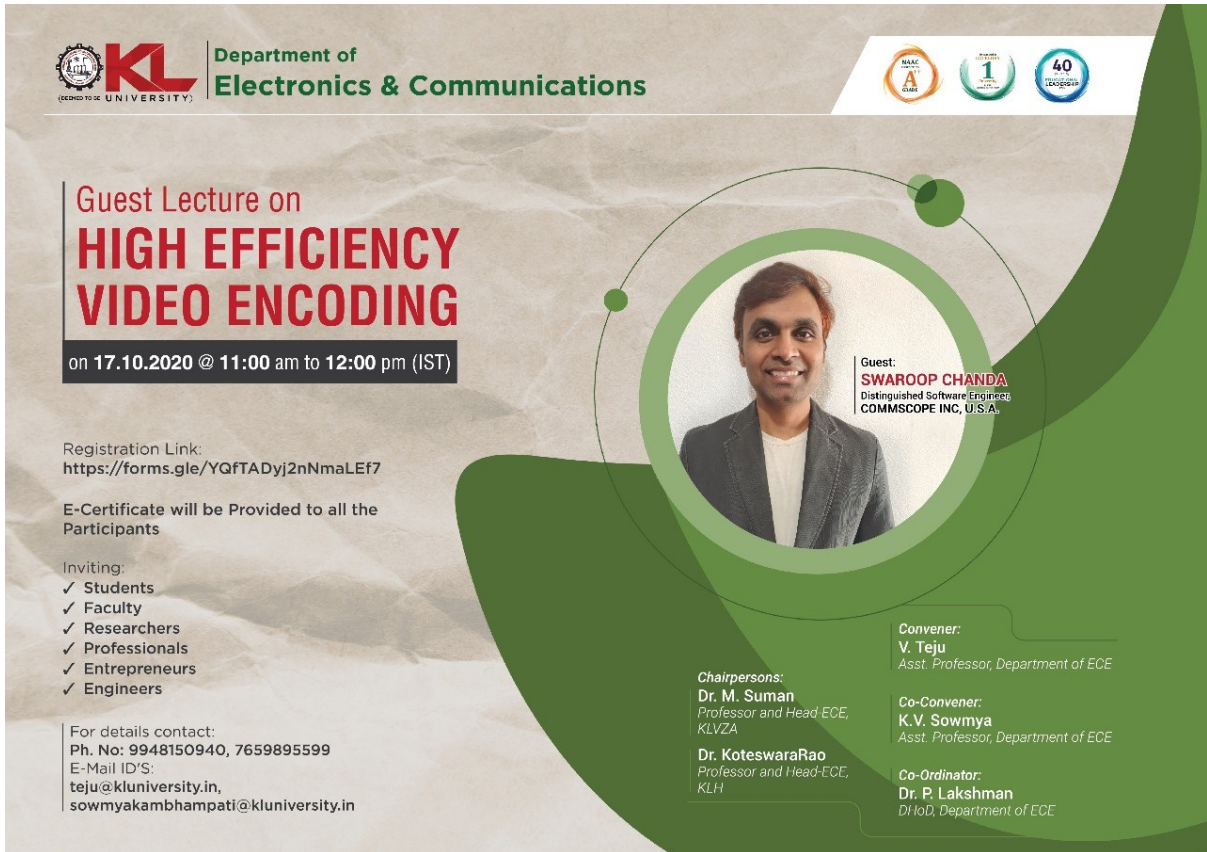
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Poster:



KL Department of Electronics & Communications
 (DEEMED TO BE UNIVERSITY)

NAAC A++ ISO 21001:2018 1 40

Guest Lecture on HIGH EFFICIENCY VIDEO ENCODING
 on 17.10.2020 @ 11:00 am to 12:00 pm (IST)

Registration Link:
<https://forms.gle/YQFTADy2nNmaLEF7>

E-Certificate will be Provided to all the Participants

Inviting:
 ✓ Students
 ✓ Faculty
 ✓ Researchers
 ✓ Professionals
 ✓ Entrepreneurs
 ✓ Engineers

For details contact:
 Ph. No: 9948150940, 7659895599
 E-Mail ID'S:
 teju@kluniversity.in,
 sowmyakambhampati@kluniversity.in

Guest:
SWAROOP CHANDA
 Distinguished Software Engineer
 COMMSCOPE INC, U.S.A.

Chairpersons:
Dr. M. Suman
 Professor and Head ECE,
 KLVZA
Dr. KoteswaraRao
 Professor and Head-ECE,
 KLH

Convener:
V. Teju
 Asst. Professor, Department of ECE

Co-Convener:
K.V. Sowmya
 Asst. Professor, Department of ECE

Co-Ordinator:
Dr. P. Lakshman
 D/InD, Department of ECE

Fig. Poster of webinar

1. Objective and discussions:

High Efficiency Video Encoding (HEVC), also known as H.265, represents a significant advancement in video compression technology, offering superior efficiency compared to its predecessors. In this article, we'll delve into the intricacies of HEVC, exploring its key features, benefits, and impact on various industries. HEVC was developed by the Joint Collaborative Team on Video Coding (JCT-VC) as the successor to H.264/MPEG-4 AVC, aiming to address the increasing demands for higher resolution and better quality video content. The primary objective of HEVC is to provide substantial bitrate savings while maintaining or even enhancing video quality.

2. Webinar Outcomes:



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One of the defining features of HEVC is its ability to achieve higher compression ratios without sacrificing visual fidelity. This is achieved through advanced techniques such as improved prediction algorithms, more efficient motion compensation, and enhanced coding tools. By partitioning video frames into smaller blocks and employing more sophisticated intra- and inter-frame prediction mechanisms, HEVC can effectively reduce redundancy in the video data, resulting in smaller file sizes.

The benefits of HEVC extend beyond just bandwidth savings. It enables the delivery of high-quality video content over bandwidth-constrained networks, making it ideal for streaming services, video conferencing, and other applications where efficient use of network resources is crucial. With HEVC, viewers can enjoy smoother streaming experiences, reduced buffering times, and higher resolution video playback on a wide range of devices.

Furthermore, HEVC's versatility makes it suitable for various applications, including broadcast television, surveillance systems, mobile devices, and virtual reality platforms. Its support for resolutions up to 8K and beyond, as well as High Dynamic Range (HDR) and Wide Color Gamut (WCG) formats, ensures compatibility with the latest display technologies and future-proofs content delivery systems. In addition to its technical prowess, HEVC's widespread adoption is driven by industry support and standardization efforts. Major technology companies, content creators, and streaming platforms have embraced HEVC as the de facto standard for next-generation video encoding, contributing to its rapid integration into consumer electronics and software applications.

However, despite its numerous advantages, HEVC adoption has faced some challenges, primarily related to licensing and patent issues. The complex patent landscape surrounding HEVC has led to concerns about royalty costs and legal uncertainties, hindering its adoption in certain markets and applications. To address these concerns, industry stakeholders have been working towards establishing fair and transparent licensing frameworks for HEVC technology. Initiatives such as the HEVC Advance patent pool aim to streamline licensing processes and promote widespread adoption by offering reasonable and predictable royalty rates for HEVC implementations.

In conclusion, High Efficiency Video Encoding (HEVC) represents a significant milestone in video compression technology, offering unparalleled efficiency, quality, and versatility. With its ability to deliver high-resolution video content at



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reduced bitrates, HEVC is poised to revolutionize the way we consume and distribute multimedia content across various platforms and devices. Despite challenges related to licensing, the widespread adoption of HEVC is expected to continue, driven by its undeniable benefits and industry support.

Online Link

<https://kluniversity.webex.com/webappng/sites/kluniversity/recording/5caaf1431ae8103bbd1fa626fadf899f/>

Number of participants: 101

Guest Lecture on
High Efficiency
Video Encoding

Swaroop Chanda
Distinguished
Software Engineer
Commscope INC, USA

Swaroop Chanda

+62



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[a] I-frame
Frame is encoded as a still image. Doesn't depend on reference frames

[b] P-frame
Frame depends on previously displayed reference frame

[c] B-frame
Frame depends on previous and future reference frames

[d] Typical mix of I-, P- and B-frames

Encoding order (top to bottom)

Display order (left to right)

Fig. Snapshots of Webinar presentation

List of the Participated Students:

- 1 190040191 JUPALLI LIKITH NAIDU
- 2 190040524 TUMMALA KARTHIK
- 3 190040413 POTNURI PAVAN VEERA VENKATA SATYA DURGASAI
- 4 190040421 PULLAGURA SRIRAM
- 5 190040382 PADMA PRIYA LAKSHMI KUMARI CH
- 6 190040212 KARRE HAVEELA
- 7 190040544 VAMPUGADAWALA SUMANTH
- 8 190040583 YASAR ARAFATTH BAIG
- 9 190040266 KOTTURU NIKHIT CHOWDARY
- 10 190040410 PONNADI RAJENDRA
- 11 190040166 GUMMA BHUVANESWARI
CHENGARI SUPREETH RAGHAVENDRA NAGA
- 12 190040662 SAINATH
- 13 190040578 YALAGALA RUPA SINDHU
- 14 190040178 HARI SAI NIKHIL KASANABOINA
- 15 190040553 VEJANDLA MEGHANA
- 16 190040549 VEERAMACHENENI HASINI
- 17 190040255 KOPPURAVURI M V SIVANAGA SATYANARAYANA
- 18 190040269 KUMBAM VINOD KUMAR
- 19 190040474 SHAIK MOHAMMED KHAALID



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21	190040359	NALLURI JASWANTH
22	190040002	ABBINA HARI VYKUNTA KISHORE
23	190040100	CHITUMADUGULA MANOJ LAKSHMAN
24	190040348	MUNNANGI NOHITHA
25	190040207	KANUGULA SAICHANDRASEKHAR
26	190040651	PULI RAJESH
27	190040125	DONTHI REDDY GNANA PRAKASH REDDY
28	190040405	POLAVARAPU NAGA RAGHAVENDRA RAO SARMA
29	190040136	GANALA SREEYA
30	190040665	SYAMALA BRAHMA REDDY
31	190040223	KATTAMURI MANI DEEP
32	190040252	KONISI RAMANA MURTHY
33	190040660	BANDI PRANAYA KAVYA
34	190040688	JOGI HIMA BALA NAGENDAR GOWDA
35	190040521	THOTA VENKATA SUBRAHMANYAM
36	190040331	MIRZA LUKHMAN HYDER
37	190040202	KANDULA BINDU SRI
38	190040535	VADLA SREEDHAR
39	190040194	KALAPALA THANUSHA
40	190040170	GUNTAMUKKALA SRI SIVA NAGA VEERA BRAHMAJI
41	190049009	NEELAPU PRUDHVI
42	190049008	ARE ANJANI KRISHNA
43	190040470	SHAIK JOHN ASIF
44	190040302	MAMIDI RAJA PANDU RANGA RAO
45	190040204	KANKANALA SAI ANURAG
46	190040341	MOTHUKURI SURYA PRAKASH
47	190040114	DESABOINA ESWAR
48	190040244	KOMMINENI LAKSHMAN
49	190040088	CHERUKURI VAMSI
50	190040076	CHALLAKONDA NAGA SOWMITHRI
51	190040624	DODDI TARAKA RAVI RAJ
52	190049032	KONA JAYA SANKAR KRISHNA
53	190040180	INDUPURI SAI MANIKANTA
54	190040243	KOMMANABOYINA JYOTHI KIRAN BABU
55	190040115	DEVAGIRI SATWIK REDDY
56	190040198	SAVIO PAUL KAMBHAMPATI
57	190040388	PALAKEETI ARUN HARSHA VARDHAN
58	190040328	MEKA AJAY KIRAN
59	190040344	MULAGALA JAGADEEP
60	190040350	MUSULURI SAI KIRAN
61	190040237	KOLAPARTHI SAIKUMAR
62	190040137	GANDIKOTA GIRISH
63	190040063	BONDADA RAVI TEJA



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67	190040277	LAKSHMI LAHARI GADI
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69	190040648	RAYAPROLU LAKSHMAN
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72	190040257	KORE MANIKANTA
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81	190040208	KAPALAVAI SIVA NAGA VENKATA LAKSHMI RAKESH


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