

NOVEMBER 2023



COER
UNIVERSITY

FORMERLY KNOWN AS UETR

NEWSLETTER

**DEPARTEMENT OF
COMPUTER SCIENCE
ENGINEERING**

From the Desk of Editor: Exploring Excellence: Inside the November 2023 Computer Science Newsletter



Welcome to the latest edition of November month newsletter of Department of Computer Science and Engineering. I trust this message finds you all in good health and high spirits. As we approach the end of another fruitful semester, I want to take a moment to reflect on the remarkable achievements and strides our department has made in the current. This edition encapsulates the diverse happenings within our department and the wider COER University community. From extending heartfelt 26th foundation day greetings from our Hon'ble Chancellor to exploring professions impervious to Computer Science, from enhancing communication and feedback through the presentation of our department newsletter to highlighting key takeaways from the 2nd Mid Term examination to End term practical examinations, there is something for everyone.

Our commitment to excellence in research, teaching, and innovation has been at the forefront of our endeavors. The dedication and hard work of our faculty, staff, and students have been instrumental in shaping the success we celebrate today.

In the realm of research, our department has continued to push boundaries and explore new frontiers. Our faculty members have made significant contributions to cutting-edge research projects, and their work has been recognized and published in renowned journals and conferences, out-reach activities.

On the academic front, our students have once again demonstrated their intellectual prowess and passion for learning. Their achievements, both in and outside the classroom, have brought recognition to our department and strengthened our reputation for producing top-tier graduates. I am immensely proud of the collaborative and supportive learning environment that characterizes our department.

Innovation has been a key driver for us, and our students have been at the forefront of various hackathons, competitions, and entrepreneurial ventures. Their creativity and problem-solving skills showcase the practical applications of the knowledge they acquire in our classrooms.

Looking ahead, I am excited about the future of our department. We will continue to evolve and adapt to the ever-changing landscape of computer science and engineering, ensuring that our students are well-prepared for the challenges and opportunities that lie ahead.

There is a healthy work-culture and the students are eager to keep up with the changes and demands of the Industry and Society. The Department goal is to provide students with a balance of intellectual and practical experiences that enable them to serve as. I want to express my deepest gratitude to each member of the

Computer Science and Engineering Department for your dedication, hard work, and passion. Together, we have built a community that thrives on collaboration and excellence.

I also want to express my sincere gratitude to our supportive and visionary management for your guidance throughout the academic journey. You motivated us when challenges arose and gave us the encouragement we needed. Without your help, we know it wouldn't have been such a success. Thank you for being such a great support.

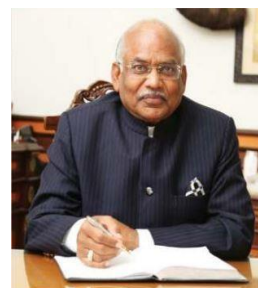
As we celebrate our achievements and look toward the future, let us remain committed to the principles that define us—a commitment to knowledge, innovation, and the relentless pursuit of excellence.

This newsletter is a testament to our department's unwavering commitment to excellence, innovation, and continuous growth. We invite you to immerse yourself in the stories, experiences, and achievements that define us as a community of forward-thinkers and educators. Thank you for being part of our journey, and we hope you find inspiration in the pages that follow.



(Dr. Kamal Kant Verma)
**HOD, Department of Computer Science Engineering,
College of Smart Computing, COER University**

**Greetings on 26th Foundation Day from Hon'ble
Chancellor, COER University**



Dear Readers,

Let me welcome you to our Fold!

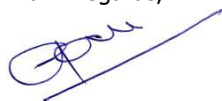
The future leaders and productive citizens of the world, I would like to stress on our mission statement of grooming young minds and hearts as the pillar of advancement of a nation and hope of the future.

Having been builders for over 25 years, we understand that a building is as strong as its Foundation. A strong foundation for our children with Indian values will create future leaders for the emerging knowledge economy. As an established and highly esteemed institution, we maintain an utmost academic standard, incorporated with the conduct of discipline, thereby achieving remarkable and excellent percentage of results.

And as your educational institution, we will support students in achieving those golden ambitions and also ensure that their stay in the college is meaningful and fruitful as well.

Modern Technology blended with Indian Value System will create global citizens who can make purposeful contribution to human race. This is our humble contribution to society. Successful and happy individuals build a successful nation.

Warm regards,



Shri. J. C. Jain
Chancellor, COER University

Computer Science an Era of Revolutionary Technologies

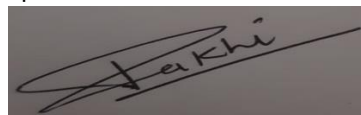


Computing is changing the way we think and work, and plays a significant role not only in solving different kinds of engineering and technological problems but also in satisfying societal needs. It is crucial to stay up-to-date with the recent trends and advancements in computer science engineering. Today, technology plays a pivotal role in various industries, and computer science is at the forefront of innovation.

From artificial intelligence and machine learning to data science and cybersecurity, the possibilities are expanding every day. Computer science engineering offers numerous opportunities for professionals to contribute to the development of revolutionary technologies. By harnessing the power of cutting-edge tools and methodologies, computer scientists can bring about significant advancements in various sectors, such as healthcare, finance, and transportation.

Looking towards the future, the scope of computer science engineering is boundless. As technology continues to evolve, there will be an increased demand for skilled individuals who can design and implement robust systems, analyze vast amounts of data, and develop secure networks. The future of computer science engineering lies in exploring emerging fields like quantum computing, Internet of Things (IoT), and blockchain technology. Research is a fundamental aspect of computer science engineering. Through research, we can address pressing challenges, create innovative solutions, and push the boundaries of what is possible. By engaging in research, students and professionals alike can contribute to the collective knowledge of the field and drive advancements that shape our future. In conclusion, computer science engineering is experiencing a remarkable surge in recent years.

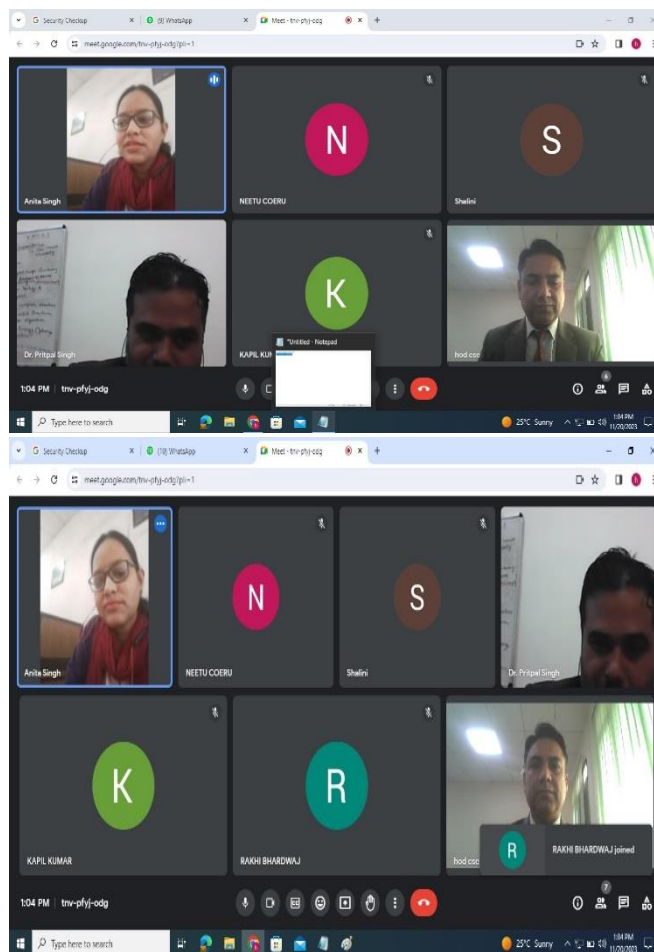
By embracing the latest trends, understanding the applications of technology, recognizing the future scope, and emphasizing the importance of research, we can prepare the next generation of computer scientists for a successful and impactful career.

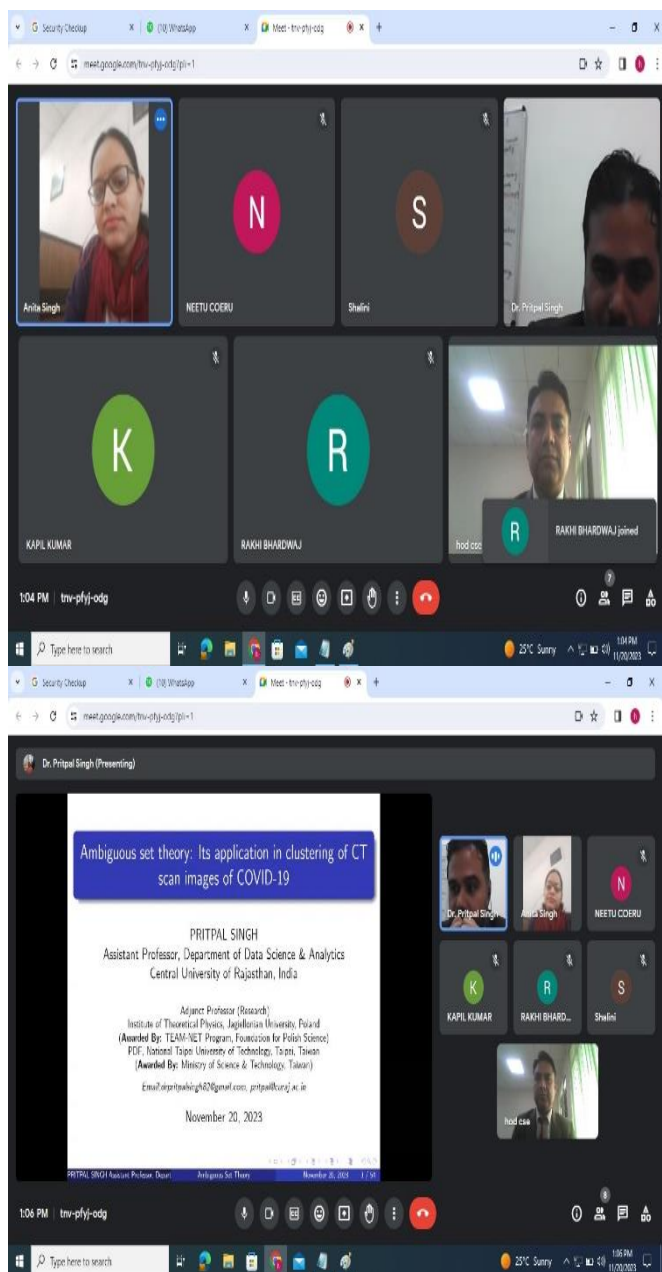


(Dr. Rakhi Bhardwaj)
Asst. Professor, Dept. of Computer Science Engineering

Expert talk on Ambiguous set theory its application in clustering of CT-scan images of COVID-19

On November 20, 2023, Computer science & Engineering Department of COER University hosted a captivating Expert Talk for B.Tech 2nd-year students and faculty members featuring Prof. Dr. Pritpal Singh, PhD (CSE), an Assistant Professor in the Department of Data Science and Analytics at the School of Mathematics, Statistics, and Computational Sciences, Central University of Rajasthan, India. The event focused on the intriguing topic of "Ambiguous Set Theory: Its Application in Clustering of CT Scan Images of COVID-19."





Prof. Singh demonstrated the relevance and potential applications of Ambiguous Set Theory in the crucial field of healthcare, particularly in the clustering of CT scan images related to COVID-19.

The talk provided practical insights into the utilization of mathematical models for real-world problem-solving, emphasizing the importance of interdisciplinary approaches. The interactive nature of the session facilitated a fruitful exchange of ideas, with participants gaining a deeper understanding of the subject. Students and faculty members gained interdisciplinary insights, understanding the crucial role of mathematical models in the healthcare domain.

The Women Scientist Conclave-2023

The Women Scientists Conclave-2023, organized by Uttarakhand Science Education and Research Center (USRC), took place on November 22, 2023, at IRDT, Dehradun. The event aimed to highlight the significant role of women in science and foster a platform for innovation, knowledge exchange, and sustainable solutions. The conclave addressed the importance of women's participation in the development of society and the integration of traditional knowledge with modern science.

Six distinguished members from our college had the privilege to attend the Women Scientists Conclave-2023 organized by Uttarakhand Science Education and Research Center (USRC) on November 22, 2023, at IRDT, Dehradun.

The program commenced with a warm welcome by Prof. (Dr.) Anita Rawat, Director of USRC. Prof. Rawat emphasized the crucial role of women in achieving sustainable, holistic, and coordinated development. She highlighted the conclave's objective to encourage inclusive and accessible quality education, gender equality, and the empowerment of women and girls. Mrs. Anita Assistant Professor from CSE department attended the program.





Conference on Innovation and Intellectual Property Rights for Multidisciplinary Research

Mr. Kapil Kumar Assistant Professor of the Department headed a conference as a session chair



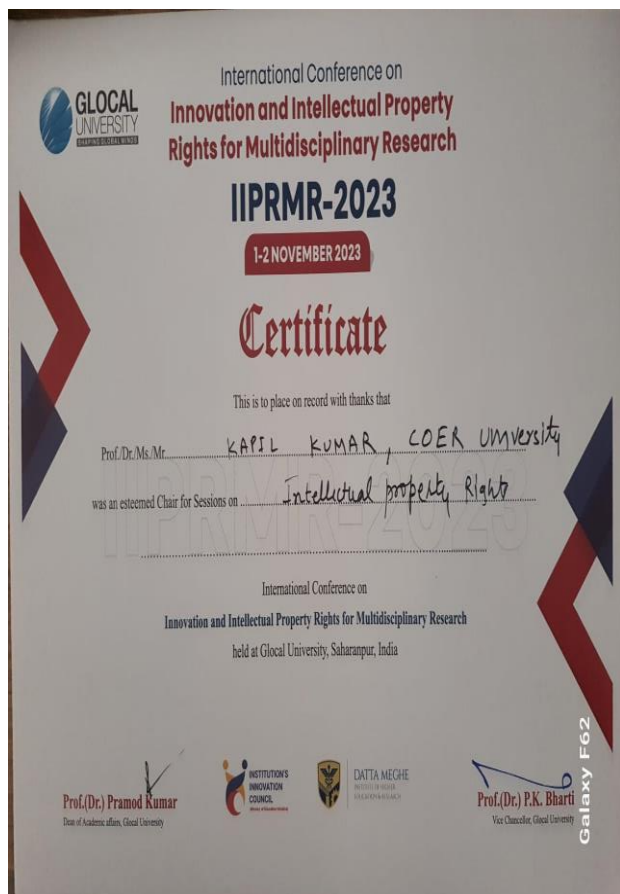
World Journal of Advanced Engineering Technology and Sciences, 2023.

Mr. Kapil Kumar published a paper in World Journal of Advanced Engineering Technology and Sciences, 2023. The paper was all about Comparative study on object detection in visual scenes using deep learning. The paper also explores recent developments in object detection, including novel loss functions, neural architecture search (NAS), and advancements in handling challenging conditions like occlusions and low lighting.

The paper provided references offer a comprehensive overview of the literature on object detection, making this paper a valuable resource for researchers and practitioners in the field.

The successful completion of MOOC course

Mr. Anuj Rana and Mr. Anurag Singh have successfully completed the NPTEL online certification course.





NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

ANURAG SINGH

for successfully completing the course

Cyber Security and Privacy

with a consolidated score of **56 %**

Online Assignments	23.13/25	Proctored Exam	32.63/75
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Total number of candidates certified in this course: 6011

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
Centre of Distance and Open Education, IITM

Jul-Oct 2023

(12 week course)

Prof. Andrew Thangaraj

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras



Roll No: NPTEL23CS127SS45800022

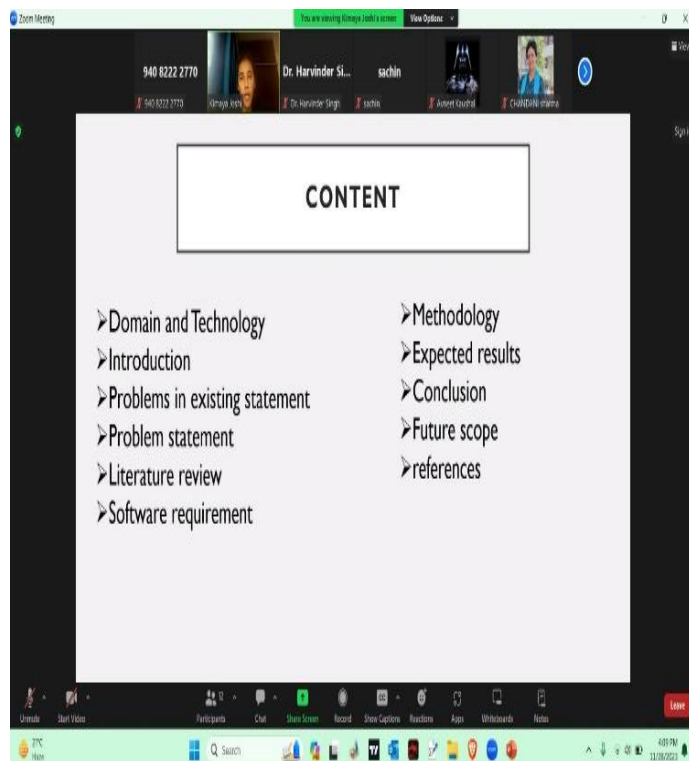
To verify the certificate



No. of credits recommended: 3 or 4

4th international Conference on Machine Learning, Advances in Computing, Renewable energy and communication (MARC-2023).

Dr. Kamal Kant Verma and Ms. Shalini presented a paper in online mode at the conference conducted by GLOCAL University Saharanpur.



CONTENT

- Domain and Technology
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- Problem statement
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People counting via Supervised learning-based 2dCNN-LR Model in Complex Crowd Images

Ankit Kumar¹, Kamal Kant Verma², and Pramod Kumar³

¹ Graphic Arts Deemed to Be University, Dehradun
² College of Smart Computing, COER University Roorkee
³ Global University, Solan Himachal Pradesh

Abstract. People counting from images can be a natural action, but automated tracking of individuals and counting thereof is a non-trivial task. For an intelligent city, intelligent traffic system, emergency people counting, and a better crowd control system, it is necessary to have an effective crowd counting method even if the crowd is dense and fast. The supervised learning-based convolutional neural network (CNN) model with the labeled information. The existing people-counting techniques often failed to offer practical steps to include training models from labeled images that result in lower accuracy. To overcome these shortcomings, a deep CNN-LR architectural model is addressed to process people in images of density. Mainly this framework incorporates a linear regression model with a deep convolutional neural network (DCNN) having deep accumulated attributes. The challenging and benchmarked Crowd360 dataset is used to conduct the people counting experiment and secured MAE and MSE are 1.05 and 2.23 respectively, which indeed obtained a state of art level performance than other real-time crowd counting mechanisms.

1 Introduction

In artificial intelligence (AI), analysis of crowd behavior is a burning issue, which has gained interest in computer vision, psychology, sociology, and deep learning to fill its proliferation. An efficient crowd analytic system for our society is much required to improve the flow of transportation in cities, congestion management systems, intensive business, and the current business retail system. Still, we are counting the people from images/videos, which is not practical as one fails to get an approximation in dense crowd samples having the same background and people attributes. Much popularity is introduced in the field of artificial intelligence to examine crowd dynamics [1], in computer vision, there is the unavailability of a powerful, automated, real-time, and robust crowd counting framework.

Anomalous activity recognition is crucial in various urban applications, including citywide pedestrian management, smart transport systems, and intelligent traffic control. Crowd-related accidents, like the tragic stampede in Malaysia in 2015 resulting in 2236 deaths, underscore the need for effective crowd management. Administration faces the challenge of preventing accidents by monitoring and limiting crowds during public, political, religious, and mass gatherings. Incidents of violence and theft in crowded places, such as at temples or during public events, necessitate systems capable of detecting abnormal human activities. The prevalence of vehicle theft in crowded areas adds to the urgency of implementing smart crowd monitoring systems at key locations like exhibitions, airports, railway stations, and streets to proactively disperse crowds and prevent disasters. Addressing issues like people walking on zebra crossings in city lanes is another benefit of such crowd monitoring systems [3]. Crowd-counting plays a pivotal role in enhancing human safety and re-identification, particularly in large-scale events like the Kumbh Mela or the Hajj. The initial step in developing any crowd-monitoring system is people density measurement, a crucial metric obtained through crowd-counting algorithms. Crowd-counting attracted the AI community in recent years for public security, urban planning, business resource management, etc. However, there are several challenges to developing an efficient and robust crowd-counting mechanisms, listed as follows:

Clothes Donation Program

A "Clothes Donation Program" has been organized by "Department of Computer Science and Engineering College of Smart Computing" on date 28th Nov. 2023. Department has delivered clothes to staff members of COER University, Roorkee, Haridwar.



Let's DONATE FOR HOMELESS THINGS THEY NEED

HYGIENE **FOOD** **CLOTHES**

Coordinator - Anurag Singh, A.P.



YOUTHOPIA2023 a Sports Event

Harsh Vardhan Singh from B Tech CSE 1st year Section A participated in YOUTHOPIA 2023 a Sports event which was held in DIT University, Dehradun. He has been awarded with first prize in ROBO SOCCER.



Scanned with OKEN Scanner

Harshit Chauhan B Tech CSE 1st year Section got a first prize in kabaddi under 19 kabaddi tournaments at Block level.





Forthcoming in December 2023

1. Alumni Meet on 2nd Dec 2023.
2. Celebration of 25th Foundation Day on 3rd Dec 2023.
3. Notes making marathon from 4-8th Dec 2023
4. End term semester examination.

Thank you for being a part of our journey! Stay vigilant, stay secure and stay connected with us for more updates and insights. Until next time, keep your digital world safe!

We are constantly striving for excellence and value your input. Please feel free to share your feedback and suggestions with us at

hod.cse@coeruniversity.ac.in.

Your insights are important to us.