DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

presents

QUARTERLY

NEWSLETTER

Faculty of Engineering and Technology (FET)
Gurukula Kangri (Deemed to be) University, Haridwar

A Newsletter from
Department of Computer Science & Engineering
Faculty of Engineering and Technology
Gurukula Kangri (Deemed to be) University, Haridwar

EDITORIAL

Welcome to the fourth edition of our quarterly magazine, where we present the latest developments and achievements within the Department of Computer Science and Engineering (CSE) at GK(DU), Haridwar. This edition encapsulates the essence of innovation and collaboration, showcasing groundbreaking research, insightful workshops, enlightening lectures, and inspiring events that define our department's dynamic landscape.

In this edition, we explore groundbreaking research delving into the convergence of IoT and Artificial Intelligence across various domains. The patents published by our faculty members underscore our commitment to technological innovation and significant contributions to the field.

Furthermore, our department continues to foster a culture of learning through workshops and lectures. Captivating sessions on leveraging modern technology for language acquisition and the transformative potential of Artificial Intelligence provide valuable insights into the future of technology.

Our collaboration with the Google Developer Student Club (GDSC) resulted in an informative workshop on AI and ML, highlighting their pivotal role in shaping the future. Additionally, our faculty development program on Cloud application development empowers educators with hands-on experience in cloud computing.

As we celebrate the achievements of our faculty, students, and alumni, this edition serves as a testament to our department's dedication and innovative spirit. We extend our gratitude to all contributors and invite you to explore the pages of this magazine to delve deeper into our dynamic journey.

Dr. Mayank Aggarwal
Professor & Head
Department of Computer Science & Engineering
GK(DU), Haridwar

1. FEATURED RESEARCH (FACULTY)

- Mr. Deepak Painuli & Dr. Suyash Bhardwaj published a paper on "Optimized Speech Signal-based Diagnosis of Parkinson's Disease using Machine Learning Techniques - Augmented by An Efficient Feature Selection & Hyperparameter Tuning Approach" in Machine Intelligence Research 2023.

- Mr. Deepak Painuli & Dr. Suyash Bhardwaj published a paper on "Optimized Diagnosis of Central Nervous System (CNS) Cancer using Gene Expression Microarray & Machine Learning (ML) Methods " in European Chemical Bulletin 2023.

- Dr. Suyash Bhardwaj published a paper on "Digital Transformation for Rural Empowerment: Exploring ICT in E- Governance and Development" in Mukt Shabd Journal 2023.

- Dr. Suyash Bhardwaj presented a paper entitled "Integrating Ethical Automation and Transformative Technological Synergy using Conscious Computing in industry 4.0" in International Conference on Ved Vigyan and Sanskriti mahakumbh, Organized by Gurukula Kangri Deemed to be University, Haridwar during 23-25, Dec 2023.

- Dr. Suyash Bhardwaj Presented a paper entitled "Sorting an Array with Backtrack & Comparison with Bubble" in International Conference on Automation, Computing and Renewable Systems (ICACRS 2023) organized by mount zion college of engineering and technology, Pudukkottai, Tamilnadu on 13 December 2023.

- Dr. Suyash Bhardwaj published a Patent no. 202311064767 on "System to Implement Cyber Security & Institutional Strategies Incorporating Principles of Management" as Indian Patent on 13/10/2023.

- Mr. Nishant Kumar published a paper on "A Review of Deep Learning-Based Approaches for Detection and Diagnosis of Diverse Classes of Drugs " in Archives of Computational Methods in Engineering 2023.

- Mr. Vivudh Fore published a paper on "Performance evaluation of ANFIS, ANN and RSM in biodiesel synthesis from Karanja oil with Domestic Microwave set up" in Multimedia Tools and Applications 2023.

- Mr. Sumit Bansal published a paper on "A Hybrid Particle Whale Optimization Algorithm with application to workflow scheduling in cloud–fog environment " in Decision Analytics Journal 2023.
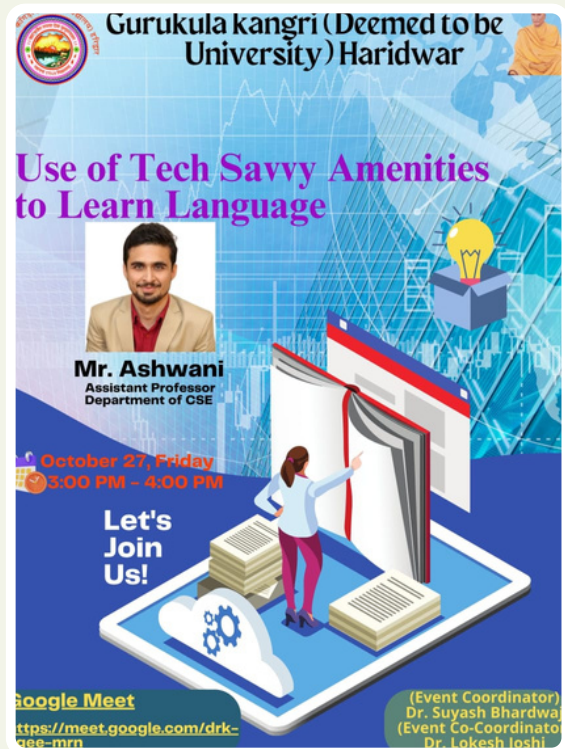
FEATURED RESEARCH (FACULTY)

- Mrs. Anjali Arora & Dr. Mayank Aggarwal presented a paper entitled "The Vedic paradigm: A Blockchain- Based Holistic Approach for Ganga purity and Environmental Harmony" in International Conference on Veda Vijnana & Sanskriti Mahakumbha organized by GK(DU), Haridwar from 23 Dec to 25 Dec 2023.

- Mrs. Nilima Patel & Dr. Mayank Aggarwal presented a paper entitled "Blockchain- Enabled Vedic document verification and validation system" in International Conference on Veda Vijnana & Sanskriti Mahakumbha organized by GK(DU), Haridwar from 23 Dec to 25 Dec 2023.

- Mrs. Anjali Sharma & Dr. Mayank Aggarwal presented a paper entitled "Unveiling the Power: Exploring the Efficacy of Artificial Intelligence within the Context of Vedic Culture" in International Conference on Veda Vijnana & Sanskriti Mahakumbha organized by GK(DU), Haridwar from 23 Dec to 25 Dec 2023.

- Mr. Aman Tyagi presented a paper entitled "Integrating Machine Learning Techniques for the Diagnosis and Management of Plant Leaf Diseases in the Context of Veda Vijnana and Sanskriti" in International Conference on Veda Vijnana & Sanskriti Mahakumbha organized by GK(DU), Haridwar from 23 Dec to 25 Dec 2023.

- Mr. Ashwani presented a paper entitled "Holistic Crop Recommendation System: Integrating Soil Ecology with Veda ,Vijnana and Sanskriti" in International Conference on Veda Vijnana & Sanskriti Mahakumbha organized by GK(DU), Haridwar from 23 Dec to 25 Dec 2023.

2. LECTURES DELIVERED

⫸ TITLE: USE OF TECH SAVVY AMENITIES TO LEARN LANGUAGE

On October 27, 2023, an enlightening lecture was delivered by Mr. Ashwani on the topic of "Use of Tech Savvy Amenities to Learn Language". The lecture was conducted on an online platform, making it accessible to a wide audience.

The event was coordinated by Dr. Suyash Bhardwaj, with Dr. Lokesh Joshi serving as the co-coordinator. The lecture focused on the importance of leveraging modern technology in language learning. It provided insights into how tech-savvy amenities can enhance the process of language acquisition and make it more interactive and engaging. The lecture was well-received, with participants gaining valuable knowledge on integrating technology into their language learning journey. The event was a testament to the commitment of the coordinators and the speaker in promoting innovative learning methods. The lecture served as a platform for attendees to understand the potential of technology in transforming traditional language learning methods.
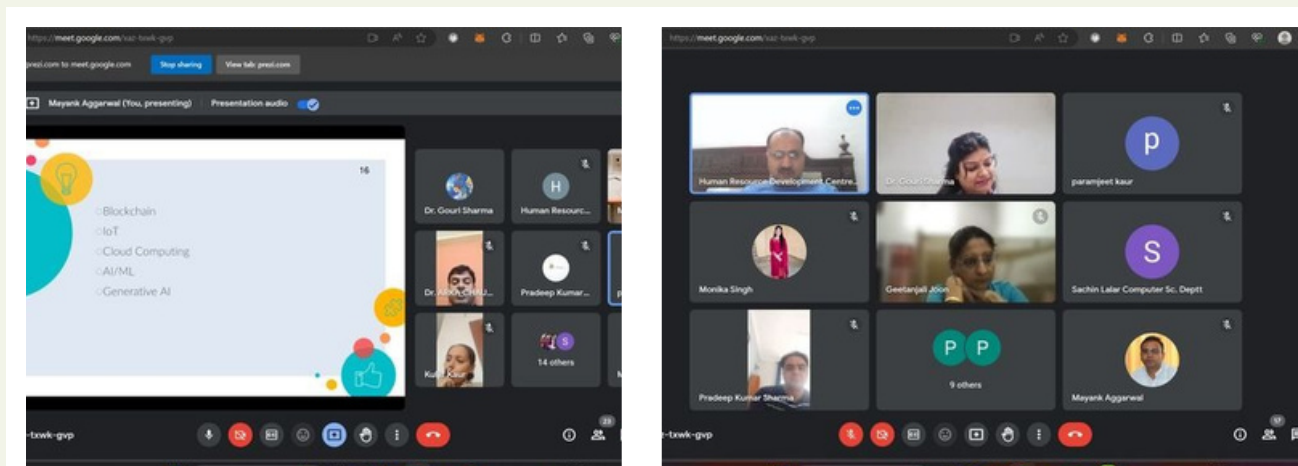
Unlock the power of technology to revolutionize learning

TITLE: UNLEASHING THE FUTURE: INNOVATION IN TECHNOLOGY

At the International Conference hosted by Glocal University, Dr. Mayank Aggarwal, delivered an engaging lecture titled "**Unleashing the Future: Innovation in Technology**" on November 1, 2023. Drawing upon his extensive expertise in technology and innovation, Dr. Aggarwal elucidated the profound implications of emerging technological advancements on society and the economy. He explored cutting-edge technologies such as Artificial Intelligence, Machine Learning, and Internet of Things (IoT), emphasizing their transformative potential across various industries. Dr. Aggarwal also highlighted the role of emerging technologies in addressing contemporary challenges such as sustainability, healthcare, and cybersecurity, fostering an environment of intellectual curiosity and knowledge exchange among attendees. His insightful presentation not only provided a deeper understanding of technological trends but also inspired exploration of new avenues for innovation and advancement.

TITLE: ARTIFICIAL INTELLIGENCE-GENERATIVE AI

On November 4, 2023, the UGC Sponsored refresher course by Kurukshetra University featured Dr. Mayank Aggarwal's exploration of "Generative AI" on an engaging online platform. This virtual session delved into the intricate world of Artificial Intelligence, offering practical insights into the transformative power of Generative AI. Dr. Aggarwal's expertise illuminated the digital landscape, transcending traditional learning boundaries.
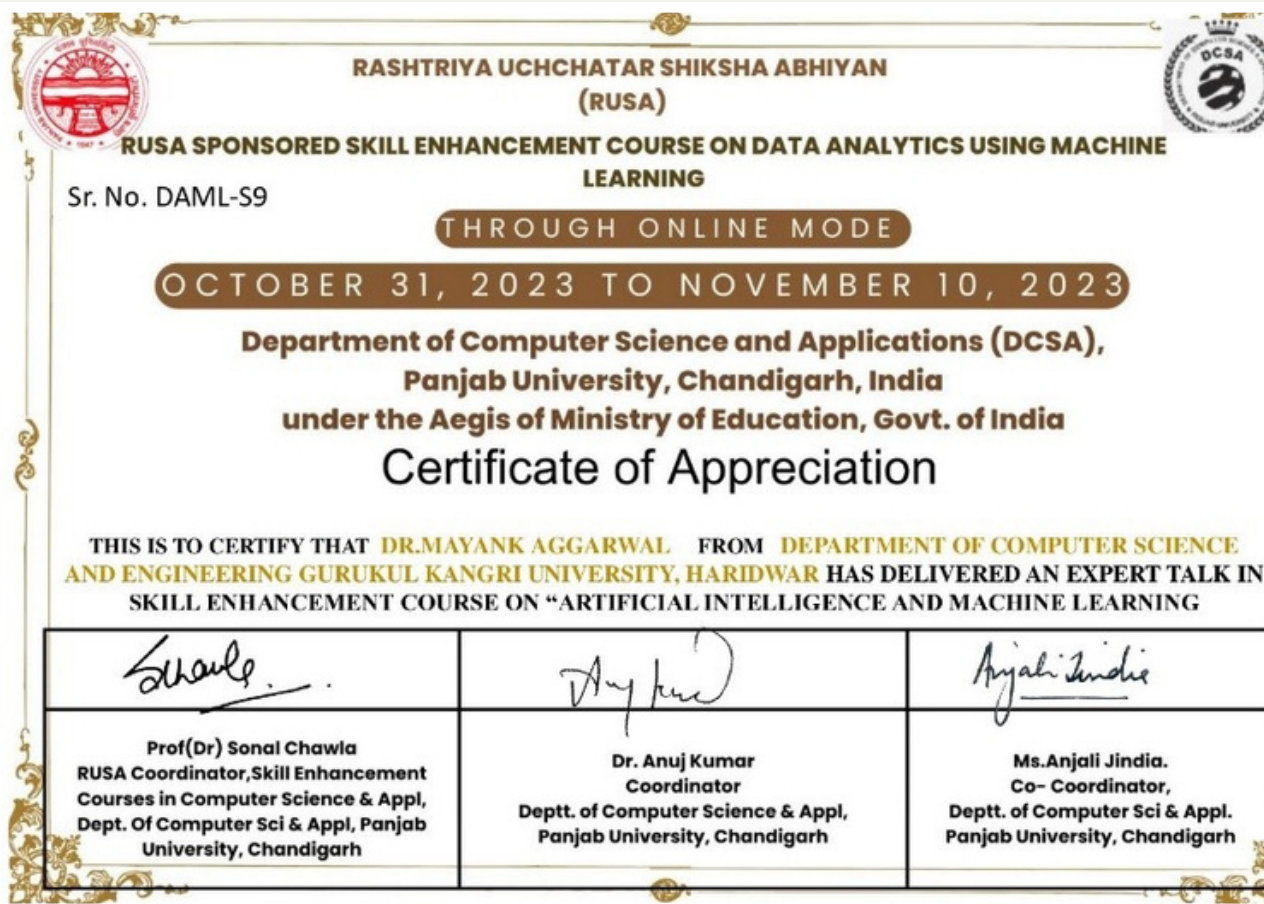

The lecture not only informed but also inspired participants, leaving an enduring imprint and reshaping perceptions of AI's boundless possibilities. In the dynamic realm of online education, this session exemplified the adaptability of learning experiences, showcasing the limitless frontiers of knowledge in the digital age—providing an enriching and forward-looking educational encounter for all involved.

TITLE: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

At Punjab University's National Workshop on November 9, 2023, Dr. Mayank Aggarwal thoroughly explored "Artificial Intelligence and Machine Learning." Going beyond basics, Dr. Aggarwal explained the intricate workings of advanced AI algorithms and ML models, showcasing their diverse applications across various industries. He addressed key challenges such as data fairness and model interpretability, offering practical strategies based on cutting-edge research. Through interactive demonstrations and real-world examples, attendees gained hands-on experience in applying AI and ML solutions. Dr. Aggarwal's expertise facilitated a dynamic exchange of ideas, bridging theory with practical implementation in technological innovation. Although the workshop concluded formally, its profound impact persists, driving ongoing discussions and shaping the discourse on the future of AI and Machine Learning, enriched by the latest technical advancements and empirical findings.
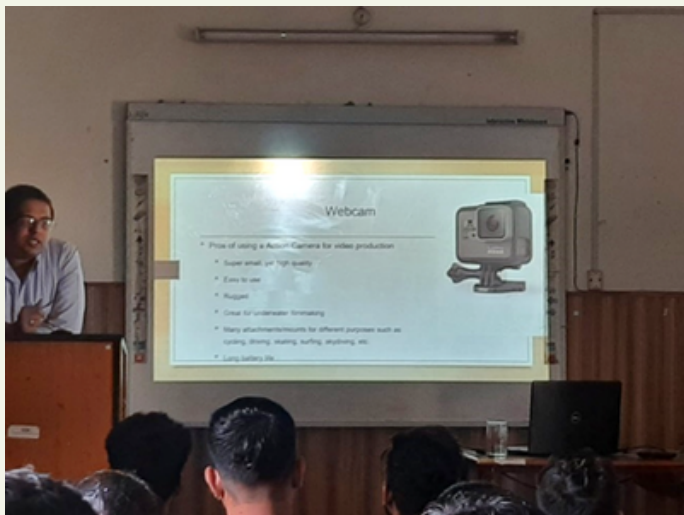
TITLE: HARVESTING INNOVATION: AI'S IMPACT IN AGRICULTURE

During the National Seminar at Punjabi University on November 21, 2023, Dr. Mayank Aggarwal discussed how Artificial Intelligence (AI) can benefit agriculture. He talked about how AI can help farmers make better decisions and improve their crops. The session, titled "Role of AI in Agriculture - Unveiling IBM Tools," focused on new farming methods that use AI technology. Dr. Aggarwal explained how these tools can help farmers monitor their fields more efficiently and make predictions about weather and crop yields. By using AI, farmers can increase their productivity and reduce waste. This session provided valuable insights into the potential of AI to revolutionize the agricultural industry, helping farmers around the world grow more food sustainably.

Dr. Aggarwal went beyond the usual stories, thoroughly examining how IBM Tools can be practically used in agriculture. Attendees had a lively discussion, linking theoretical ideas with the current practices in farming. Dr. Mayank Aggarwal's knowledge sparked a deep understanding of how AI, when combined with IBM Tools, is changing agriculture. Even after the event ended, its effects continued, fueling ongoing conversations and shaping a detailed discussion on the vital role of Artificial Intelligence in agriculture's future.

Dr. Suyash Bhardwaj delivered an invited talk on "Audio Video Recording Tools, Screencast training and uses" in Uttarakhand Sanskrit University on 10 October 2023.
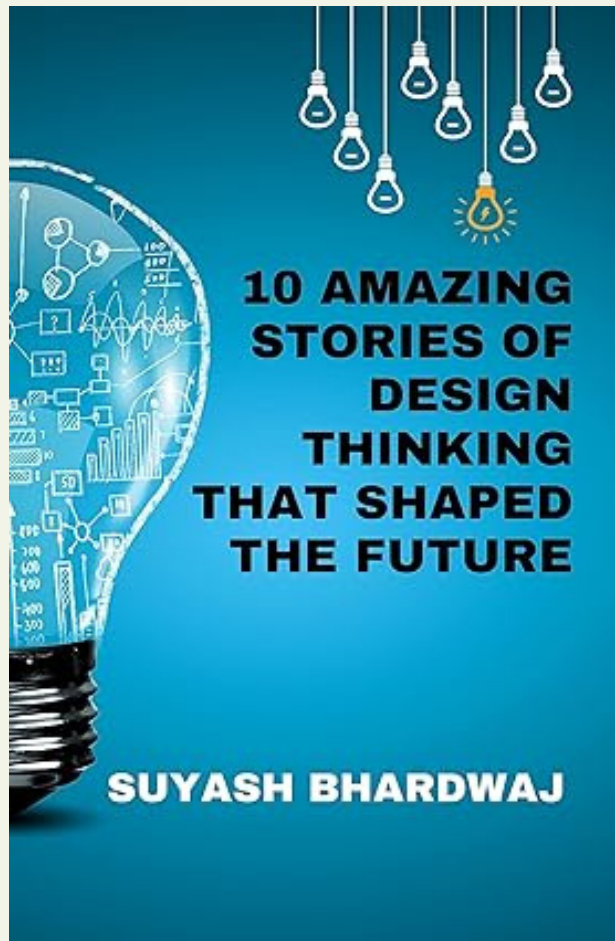

Dr. Suyash Bhardwaj delivered an Invited talk on "IPR and Innovation" at Quantum University, Roorkee on 13 October 2023.

Dr. Suyash Bhardwaj delivered an Invited talk on "Project development using VB.net" in DSVV, Shantikunj on 25 Nov, 2023.

3. TITLE: BOOK CHAPTER

Dr. Mayank Aggarwal authored a Chapter titled " Building Efficient Smart Contract for Healthcare 4.0 " in Book titled "Blockchain for Healthcare 4.0" by CRC Press(Taylor & Francis) . Dec,2023. ISBN-9781003408246. Link : Blockchain for Healthcare 4.0: Technology, Challenges, and Application (routledge.com)

Dr. Suyash Bhardwaj authored a Chapter titled " 10 Amazing Stories of Design Thinking that Shaped the Future" by Amazon Kindle.

Mr. Deepak Painuli, Dr. Suyash Bhardwaj, Dr. Utku Kose authored a Chapter titled " Recent Advancement in Pancreatic Cancer Diagnosis Using Machine Learning-Based Methods: A Systematic Review" in Springer.

Mr. Sumit Bansal, Dr. Himanshu Agarwal, Dr. Mayank Agarwal authored a Chapter titled " Random Cloudlet Priority Scheduling:An enhanced Approach" in Taylor & Francis.

⫸⫸ GDSC Workshop

The Google Developer Student Club (GDSC), in collaboration with the Department of Computer Science and Engineering at Gurukul Kangri University, hosted an enlightening workshop on Artificial Intelligence (AI) and Machine Learning (ML) on October 4, 2023. A total of 130 enthusiasts actively participated in the event. Dr. Vipul Sharma, the Dean of the Faculty of Engineering and Technology (FET), inaugurated the workshop, outlining its objectives and highlighting the pivotal role of AI and ML in today's rapidly evolving technological landscape.

Dr. Mayank Agarwal, elaborated on the significance of mastering AI and ML technologies, emphasizing their potential to unlock countless future opportunities. The workshop comprised two sessions. In the first session, Dr. Nishant Kumar delved into the practical applications of AI and ML across various domains, engaging the audience with demonstrations of AI tools for image and text generation and showcasing noteworthy projects. He also discussed the benefits and limitations of AI, fostering a comprehensive understanding among participants.

In the second session, Dr. Suyash Bhardwaj motivated students to conduct in-depth research on the diverse applications of modern AI and ML methods in contemporary society. He not only showcased the marvels of AI but also addressed critical issues of sustainable development and engineers' social responsibilities. Dr. Bhardwaj emphasized the pivotal role of AI-powered technologies in addressing global challenges, underscoring the importance of consistent learning and classroom education in building a strong foundation.

The workshop was skillfully coordinated by Mr. Ashish Madhup, the GDSC Lead of 2023, who expressed gratitude to all attendees, speakers, and organizers for their contributions to the success of the program. He highlighted the significance of AI and ML in shaping the future of technology and encouraged students to delve deeper into these exciting fields.

Cybersecurity Workshop

A Cyber Awareness Workshop took place on November 9, 2023, at the Faculty of Engineering and Technology of Gurukul Kangri Deemed University. The workshop focused on "Cyber Awareness and Online Security," aiming to educate attendees on various online frauds and enhance cyber awareness. Mr. Nirbhayendra Sharma, Branch Manager at IDFC First Bank, Haridwar, led the session, introducing participants to common online frauds.

Dean Professor Vipul Sharma warmly welcomed Mr. Nirbhayendra Sharma, highlighting the workshop's significance in today's digital era. Dr. MM Tiwari emphasized the importance of such events in addressing prevalent cyber-crimes and preparing communities to navigate the online landscape securely. Dr. Sunil Panwar emphasized the workshop's value in bridging theoretical knowledge with real-world challenges.

Mr. Nirbhayendra Sharma provided insights into online frauds, cybercriminal tactics, and practical tips to minimize risks during online transactions. The workshop encouraged interactive discussions, allowing participants to address specific concerns. The event concluded with gratitude extended to Mr. Nirbhayendra Sharma for his informative session.

In attendance were Dr. Suyash Bhardwaj, Dr. Vivek Goyal, Dr. Lokesh Joshi, Dr. Gaurav Malik, Dr. Ashish Nainwal, Mr. Pratik Aggarwal, Mr. Vikas Deshwal, Mr. Shyam Kumar Kashyap, Mr. Dev Anand Joshi, and other faculty members.

FDP on Red-hat Openshift IBM Cloud

The Faculty Development Program (FDP) on Cloud Application Development with Red-Hat OpenShift, sponsored by IBM in collaboration with AICTE and powered by Smart Internz, spanned over 5 days. It aimed to enhance faculty members' knowledge and skills in cloud computing, offering hands-on experience with Red-Hat, IBM Cloud, and GitHub. Over 250 registrations were received from various institutes, with 70 teachers participating in the FDP. Mr. Shivam Shivhare from Smart Internz served as the speaker.

Event Details:
- Experts: Mr. Shivam Shivhare (Smart Internz), Dr. Mani Madhukar (IBM)
- Venue: O.S.H/I.B.M LAB, F.E.T, G.K(D.U)
- Duration: 5 days

The workshop commenced with an introduction to cloud computing services, with participants setting up accounts on IBM Skillsbuild, Smartinternz, Red-Hat, IBM Cloud, and GitHub. Subsequent days focused on practical application development using Flask, a Python web framework, culminating in the creation of a web application incorporating login pages for students and faculty, integrated with IBM Cloud's DB2 for cloud-based database storage. The final day involved linking the project with IBM Cloud Object Storage for cloud-based storage of student assignments.

The program encompassed several noteworthy highlights:

- Introduction to Red Hat OpenShift: Participants received an overview of Red Hat OpenShift, its architectural framework, and its pivotal role in managing container Kubernetes. Through hands-on sessions, attendees learned to develop, deploy, and oversee containerized applications on OpenShift. They actively engaged with OpenShift tools and resources to gain practical insights.

- Security in Cloud Application Development: Deliberations covered security aspects in cloud application development, emphasizing adherence to industry standards. Discussions revolved around ensuring compliance and implementing measures to bolster security.

- CI/CD Pipelines with OpenShift: The FDP delved into Continuous Integration/Continuous Deployment (CI/CD) pipelines with OpenShift, spotlighting the automation of application delivery processes to minimize manual intervention and streamline workflows.

- Networking and Storage Solutions: Participants explored networking and storage solutions within the OpenShift ecosystem, equipping them with the knowledge to design resilient applications.

On the concluding day, faculty members finalized their individual projects and uploaded them to their GitHub repositories. The workshop culminated with a Valedictory Session attended by faculty members from the Faculty of Engineering and Technology (FET). Attendees acquired proficiency in leveraging diverse cloud services, including IBM Cloud and GitHub.

The successful completion of this program is poised to significantly benefit faculty members, augmenting their capacity to educate and mentor students in the realm of cloud technology.

5. STUDENT SPOTLIGHTS

Kumar Ritik, a diligent student from the batch of 2020-2024, has scored a remarkable percentile in the CAT 2023 exam.

He has shown exceptional aptitude and skills in the field of computer science and engineering, as well as in the management domain.

We congratulate them on their success and wish them all the best for their future to giving a new starts in the field of management and it will be classical outcome when the engineering minds meets with mangement.

COMMON ADMISSION TEST 2023 (CAT 2023)
INDIAN INSTITUTES OF MANAGEMENT

CAT 2023 SCORE CARD

Name of the Candidate : KUMAR RITIK

Candidate's Contact Details :
Gola Mohalla Ara

Town/City : Ara
District : Bhojpur
State : Bihar
Email : ara.kumarritik@gmail.com

| Test Day Photo | Uploaded Photo |

Kumar Ritik

CAT Application Number	▮▮▮▮	PwD Status	No
Gender	Male	Category	EWS
Date of Birth	▮▮▮▮	Date of Test	26th Nov 2023

Section		Section		Section		Total	
Verbal Ability & Reading Comprehension		Data Interpretation & Logical Reasoning		Quantitative Ability			
Scaled Score	Percentile	Scaled Score	Percentile	Scaled Score	Percentile	Overall Scaled Score	Overall Percentile
22.69	89.54	20.70	96.60	16.57	94.48	59.96	96.49

कलयुग की झाँकी

कलयुग खड़ा है द्वार में,
संकट छाया संसार में,
अभी और भयावह होना है,
पल पल मनुष्य को रोना है,
विकराल समय अब आएगा,
जब पाप मनुष्य पे छाएगा,
सोचो कलयुग का कैसा अंत होगा,
जब कोई यहां न संत होगा,
अभी और भयंकर बाकी है,
ये बस कलयुग की झांकी है।।

अभी तो कलयुग बच्चा है,
दो चार इंसान तो सच्चा है,
कलयुग जब चरम पे आयेगा,
मनुष्य मनुष्य को खायेगा,
फिर सब में दानव अंश होगा,
फिर सबके मन में कंस होगा,
और अगर अंजाम बता दूं,
ईर्ष्या और दुख का तुम्हे पता दूं,
ये सब तेरे मन में वास करेंगे,
तेरी बुद्धि का विनाश करेंगे,
हल में प्रभु सुमिरन बस काफी है,
वरना ये बस कलयुग की झांकीं है।।

-प्रांजल मणि द्विवेदी

बहुत बुराई है कलयुग में,
पर इसमें एक अच्छी बात है,
ईश्वर मिलन के खातिर,
कलयुग एक सौगात है,
पर बुद्धि में पाप चढ़ा हुआ है,
सब का पारा बढ़ा हुआ है,
जब पाप यहां कण कण होगा,
तब फिर से हरी अब्तर्ण होगा,
फिर धर्म अधर्म में रण होगा,
तभी कलयुग मरण होगा,
चलो अब कलयुग शमशान हुआ,
फिर से धर्म उत्थान हुआ,
हरि लीला अब हुई खत्म,
उनका बैकुंठ प्रस्थान हुआ।।

मिथ्या संसार

क्रूर सा मैदान है, निर्दयता की चाल है,
छू रही यह काया-काया, यह नया संसार है।
प्रेमभूमि बन चुकी, युद्ध का मैदान है,
रक्त-रक्त से लिखी, हर व्यक्ति की पहचान है।
मैं देख पाया रंग जिसके, शतरंज की सह-मात थी,
प्रत्येक हस्ती के पीछे, एक कड़वी सी अट्टहास थी।
मिथ्या बन चुका जो जीवन, अंत तक पहुंचने की एक आस थी,
बुझ गए दीपक वह, जिसमें कुछ कर जाने की प्यास थी।
बोझिल से संसार में, एक आकांक्षा मात्र प्रकाश थी,
अंधकारमय जीवन, मिथ्या संसार त्रास थी।

-अभिषेक जांगड़ा

मौन

मौन एक शब्द नहीं,
जरूरत है,
खुद को बांध के रखने को,
खुद को सनज्यो को रखने को,
मौन कमजोरी नही हथियार है,
मुश्किल प्रशथिति को झेलने को,
उद्विग्न मन को दिशा देने को एक
प्रारूप है मौन ||

-आशुतोष कुमार

7. STUDENT PLACEMENT

Gurukula Kangri (DU) Haridwar

Ayush Kumar Saini
Student of
Department of Computer Science & Engineering
Batch 2020-2024

Congratulations

Placed in

Mobiloitte

Gurukula Kangri (DU) Haridwar

Himanshu
Student of
Department of Computer Science & Engineering
Batch 2020-2024

Congratulations

Placed in

Unified Cloud

Gurukula Kangri (DU) Haridwar

Shivam Kumar Pathak
Student of
Department of Computer Science & Engineering
Batch 2020-2024

Congratulations

Placed in

Hexaview Technologies

Gurukula Kangri (DU) Haridwar

A M Sanjeev
Student of
Department of Computer Science & Engineering
Batch 2020-2024

Congratulations

Placed in

Teachnook

Department of Computer Science & Engineering
Quarterly Newsletter - Oct - Dec, 2023

Editorial Team:

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Student Members	A M Sanjeev Ashutosh Kumar Harsh Modi Abhishek Jangra