Department of Computer Science & Information Technology

CIRCULAR

Ref.No.: AJU/CS & IT/07/2024-25   Date: 16.07.2024

This is hereby to inform all the students that Department of Computer Science & IT is going to organize a Value Added Course on "Deep Learning and its Application" from 24th July 2024 to 09th August 2024. Interested students can nominate themselves on or before 23rd July 2024.

Arvind Pandey

Dr. Arvind Kumar Pandey
Dean
School of Engineering & IT
ARKA JAIN University, Jharkhand

VALUE ADDED COURSE ON DEEP LEARNING AND ITS APPLICATION

Date of Event	24-07-2024 to 09-08-2024
Name and Type of Event	Value Added Course on Deep Learning and its Application, Skill Development
Conducted by	Mr. Akash Kumar Bhagat, Dr. Arvind Kumar Pandey
No. Of Participant	76

Objective of the Course:

The primary objective of this value-added course was to equip students with a comprehensive understanding of Deep Learning concepts, practical implementation of Neural Networks, and their applications in real-world scenarios.

Course Details:

The course commenced on 24-07-2024 and was held in the Computer Lab of the Department of CS & IT at 5:00 PM. The sessions were structured to provide hands-on experience, enabling students to develop practical skills in deep learning. The curriculum covered the following key topics:

- Fundamental Understanding of Deep Learning
- Ability to Implement Neural Networks
- Proficiency in Convolutional Neural Networks (CNNs)
- Competence in Generative Adversarial Networks (GANs)
- Application of Deep Learning in Real-World Scenarios

Course Implementation:

Each session included both theoretical and hands-on practical learning, with assignments given daily to enhance students' understanding. The course content was entirely practical-based, ensuring that students gained proficiency in applying deep learning techniques effectively.

Assessment & Certification:

On the final day of the course, students appeared for a test to evaluate their understanding and practical skills. Those who met the minimum qualifying criteria were successfully certified for completing the course.

Outcomes of the Course:

- By the end of the program, students achieved:
- A solid foundation in deep learning concepts.

- Hands-on experience in designing and implementing Neural Networks.
- Proficiency in advanced architectures like CNNs and GANs.
- Practical exposure to real-world applications of deep learning.
- The ability to independently work on deep learning projects and assignments.

This value-added course provided a significant learning experience for students, bridging the gap between theoretical knowledge and practical implementation in the field of deep learning.
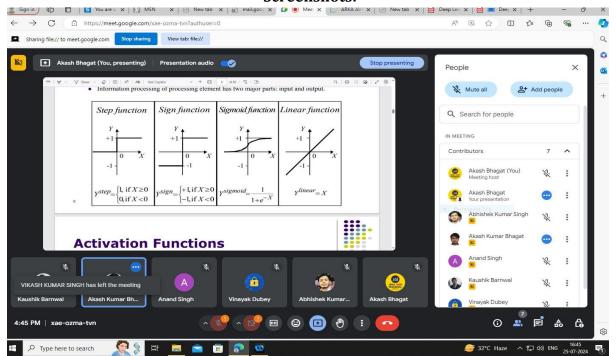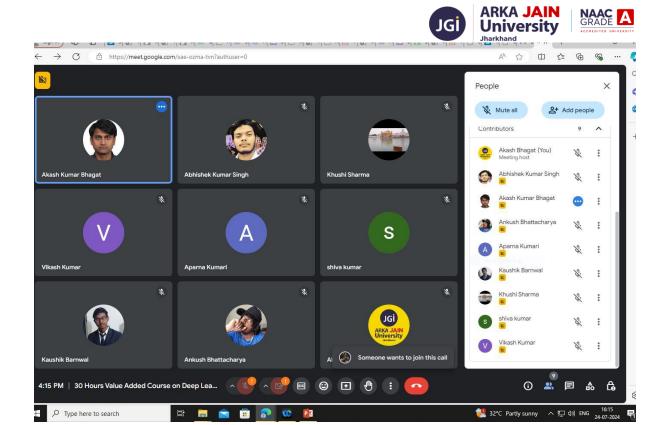
Poster of the Event:

Screenshots:

Topic of Value-Added Course Date and Time

Sessions	Topics	Date	Time
	UNIT: 1		
1.	Introduction to Deep Learning, Overview of Machine Learning vs. Deep Learning	24.07.2024	5:00 to 7:00 PM
2.	History and evolution of Deep Learning, Trends in the adoption of Deep Learning	25.07.2024	5:00 to 7:00 PM
3.	Applications of Deep Learning across various domains	26.07.2024	5:00 to 7:00 PM
	UNIT: 2		
4.	Neurons and biological inspiration, The Perceptron model	27.07.2024	5:00 to 7:00 PM
5.	Activation functions: Sigmoid, Tan h, ReLU, and others, Loss functions: MSE, Cross-Entropy	29.07.2024	5:00 to 7:00 PM
	UNIT: 3		
6.	Forward and Back propagation, Gradient Descent and its variants (SGD, Adam, etc.)	30.07.2024	5:00 to 7:00 PM
7.	Over fitting and Regularization techniques (Dropout, L2, Early Stopping)	31.07.2024	5:00 to 7:00 PM
8.	Introduction to optimization techniques	01.08.2024	5:00 to 7:00 PM
	UNIT: 4		
9.	Convolution and pooling operations	02.08.2024	5:00 to 7:00 PM
10.	CNN architectures: LeNet, AlexNet, VGG, ResNet	03.08.2024	5:00 to 7:00 PM
11.	Applications of CNNs in image processing	05.08.2024	5:00 to 7:00 PM
	UNIT: 5		
12.	GAN architecture and training process	06.08.2024	5:00 to 7:00 PM
13.	Applications of GANs in image generation, style transfer	07.08.2024	5:00 to 7:00 PM
14.	Challenges in training GANs	08.08.2024	5:00 to 7:00 PM
15.	Future trends in Deep Learning	09.08.2024	5:00 to 7:00 PM

List of Students

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Certificates

ARKA JAIN University
Jharkhand | NAAC GRADE A — ACCREDITED UNIVERSITY

Certificate of Completion

This is awarded to

Monishankar Mahato

for completing the Value Added Course on
"Deep Learning with Tensorflow"

Dr. Arvind Kumar Pandey
Dean
Converner

Akash Bhagat
Assistant Professor
Coordinator

ARKA JAIN University
Jharkhand | NAAC GRADE A — ACCREDITED UNIVERSITY

Certificate of Completion

This is awarded to

Puja singh

for completing the Value Added Course on
"Deep Learning with Tensorflow"

Dr. Arvind Kumar Pandey
Dean
Converner

Akash Bhagat
Assistant Professor
Coordinator

ARKA JAIN University Jharkhand
NAAC GRADE A ACCREDITED UNIVERSITY

Certificate of Completion

This is awarded to

Ritika das

for completing the Value Added Course on
"Deep Learning with Tensorflow"

Dr. Arvind Kumar Pandey
Dean
Converner

Akash Bhagat
Assistant Professor
Coordinator

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Certificate of Completion

This is awarded to

R Sirisha Kumari

for completing the Value Added Course on
"Deep Learning with Tensorflow"

Dr. Arvind Kumar Pandey
Dean
Converner

Akash Bhagat
Assistant Professor
Coordinator

ARKA JAIN University Jharkhand

NAAC GRADE A ACCREDITED UNIVERSITY

Certificate of Completion

This is awarded to

Abhishek Kumar Singh

for completing the Value Added Course on
"Deep Learning with Tensorflow"

Dr. Arvind Kumar Pandey
Dean
Converner

Akash Bhagat
Assistant Professor
Coordinator