Center of Excellence
for
Deep Learning and Computer Vision

Name of Coordinator:
Mrs.Lakshmi Praveena Bellamkonda
Designation: Professor & HOD
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Vision

The Centre for Computer Vision & Deep Learning is dedicated to advancing the fields of computer vision and deep learning. It serves as a hub for cutting-edge research, innovation, and collaboration, bringing together experts, researchers, and industry leaders to explore the vast potential of these transformative technologies.

Objectives

1. Conduct cutting-edge research to push the boundaries of computer vision and deep learning, contributing to the development of innovative algorithms, models, and techniques.
2. Aim for student and faculty publications in top-tier conferences and journals
3. Develop and implement comprehensive educational programs in computer vision and deep learning to equip students, and faculty.
5. Actively engage with the wider community through conferences, seminars, webinars, and public lectures to share research findings and insights

Faculty Members

S.No.	Name	Designation	Qualification	Specialization
1.	Ms.A.Naga Kalyani	Assistant Professor	M.Tech,(Ph.D)	ML & DL
2.	Mr.B.Kishore KUmar	Assistant Professor	M.Tech,(Ph.D)	ML & DL

Infrastructure

S.No.	Name of the Equipment	Quantity	Cost
1	Ultra Super Server SYS62U-TNR Intex Xeon Silver 4310, Processor 12-Core 2.1Ghz, 18MB Cache(120W) 128 GB RAM DDR4, 2*960 GB SSD, GPU KIT NVIDIA RTX A6000	1	Rs. 11,02,500/-
2	IBM Server X3650M4 8GB RAM 3* 600GB HDD	1	2,55,164.00
3	Dell Power Edge R710 256 GB 4TBSATA HDD	1	1,82,009.00
4	Dell Power Edge Rack Server R540 16GB RAM 2TB HDD Sr.No. 6XBPZ23	1	2,40,900.00
5	The Internet Capacity of College is 1420 MBPS.		

List of Open-Source Softwares

S.No.	Name of Software
1.	Python 3.9
2.	Jupyter Notebook, Anaconda
3.	ScikitLearn
4.	Keras
5.	TensorFlow
6.	PyTorch
7.	Pandas
8.	NumPy

MOU's (COE):

1. MOU signed with AIMER for collaborative projects on computer vision in medical applications.
2. MOU signed with ARAI, Pune for collaborative work related to semiconductor applications and computer vision.

Patents:

1. Ms. Srinika Sharma, Ms.Chitra Bhanu, Ms. Deepika, BTech Scholars, **System and method for Visually Impaired Transcription** with application number: 202341076497A on 16-02-2024.
2. Dr.B.Lakshmi Praveena, Professor, Ms.A.Naga Kalyani, Asst Prof, Ms.V.Asha, Asst Prof **HealAI: Autonomous Healthcare Management using Reinforcement Learning** with application number: 202441027697 A on 12/4/2024**.**
3. Ms.A.Naga Kalyani,, Assistant Professor, **Method and System for providing neural networks for medical image processing to accurately assess the growth of tumours,** application number: 202241072817A on 30-12-2022
4. Ms.A.Naga Kalyani, Assistant Professor, **Novel classification model for infected tree leaves classification using deep convolutional networks** with application number:202341051699A on 1-9-2023.

Achievements:

1. **Digitization of Isometric Drawings using AI/ML techniques** project done in collaboration with Hexagon.
2. Ms. Srinika Sharma, Ms.Chitra Bhanu, Ms. Deepika, BTech Scholars, **Sight Scribe** project selected under MSME grant 0f 15Lakhs.

Outcomes

- Able to enhance their expertise in the area of computer vision & deep learning by Faculty and Students.

- Able to carry out projects at 3rd year and 4th year level.
- Able to participate and crack national level hackathons.

List of projects

S.No.	Title	Specialization	Faculty mentor	Academic Year
1.	Triple Threat : Yolov2 , Yolov8 And SSD Reinventing Xray Security.	Deep Learning & Computer Vision	Dr B Lakshmi Praveena	Security
2.	Cinemotion Polyglot-Elevating Your Cinematic Journey With Emotion And Language	Deep Learning & Computer Vision	Dr.Ch Edukondalu	Entertainment
3.	Leveraging Transfer Learning For Potato Leaf Disease Anticipation	Deep Learning & Computer Vision	Ms.A Naga Kalyani	Agriculture
4.	Fine-Grained Aspect-Based Sentiment Analysis With NLP: Uncovering Opinions In Text	Deep Learning & Computer Vision	Mr.B Kishore Kumar	NLP
5.	Road Lane Boundary Tracking Using Hough Transform	Deep Learning & Computer Vision	Ms. P Anusha	Autonomous Vehicles
6.	Cognitive Inference Through Visual Analysis	Deep Learning & Computer Vision	Ms. V Asha	Cognitive Computing
7.	Alertdriver: A Real-Time Distraction Detection Solution	Deep Learning & Computer	Ms. S Annapoorna	Autonomous Vehicles

		Vision		
8.	A Smart Farmland System For Detecting And Preventing Animal Intrusion	Deep Learning & Computer Vision	Ms. R Priyanka	Agriculture
9.	Telugu Touch: Translating Silence To Syllables	Deep Learning & Computer Vision	Dr. Lakshmi Praveena	NLP
10.	Imagescript : A Caption Generator	Deep Learning & Computer Vision	Dr. Ch Edukondalu	NLP
11.	Exploring The Science Of Emotion Recognition Through Facial Cues: A Comprehensive Review	Deep Learning & Computer Vision	Ms. A Naga Kalyani	Computer Vision
12.	Skin Lesion Classification For Early Disease Detection	Deep Learning & Computer Vision	Mr. B Kishore Kumar	Health Care
13.	Deep Learning Based Facial Profiling For Age, Gender And Ethinicity	Deep Learning & Computer Vision	Ms. P Anusha	Computer Vision
14.	Mental Health Therapist Chatbot Using NLP	Deep Learning & Computer Vision	Ms. V Asha	Health Care
15.	Interactive Gaming Control Through Hand-Gestures	Deep Learning & Computer Vision	Ms. V Indu	Entertainment

16.	VOICE ANALYSIS: Offline Speech Recognition With Pocketsphinx And Online Machine Translation With Google trans	Deep Learning & Computer Vision	Ms. V Asha	NLP
17.	"Sightscribe-Revolutionizing Transcribing For The Visually Impaired	Deep Learning & Computer Vision	Dr B Lakshmi Praveena	Computer Vision
18.	AANET-Pulmonary Embolism Detection Using Artery Aware Network	Deep Learning & Computer Vision	Dr B Lakshmi Praveena	Health Care

List of Publications

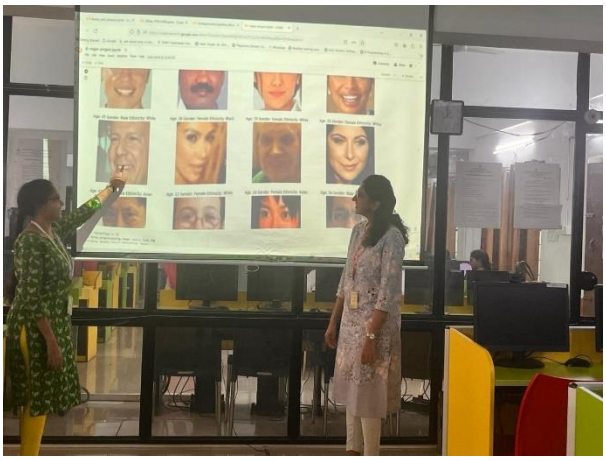
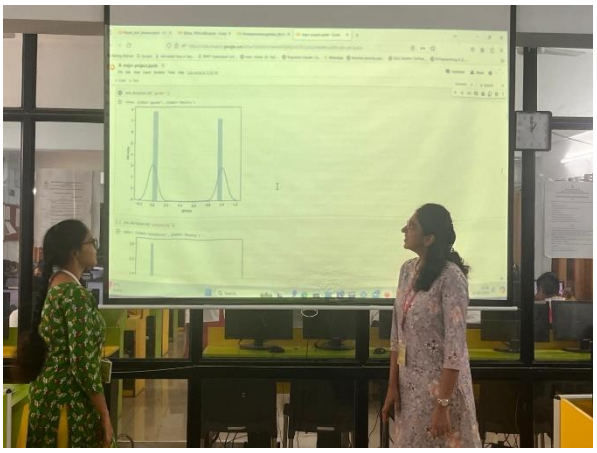
S.No.	Title	Name of the Journal/Conf/ Book/Book Chapter	Academic year (Keep Latest first)	DoI/ISSN/ISBN	Web Link
1	Performance Analysis of Cycle GAN in Photo to Portrait Transfiguration Using Deep Learning Optimizers	IEEEAccess	2023		10.1109/ACCESS.2023.3337430
2	People Count from Surveillance Video using Convolution Neural Net	INDIA 2022 Conference	2022		https://doi.org/10.1007/978-981-19-4863-3_5
3	*Automated Word Prediction In Telugu*	2023 International Conference On Computer	2023	Doi:10.1109/Iccci56745.2023.10128384.	https://ieeexplore.ieee.org/abstract/document/10128384

	Language Using Statistical Approach	Communication And Informatics (Iccci)			
4	Relavation Schemes of Malicious Data For Distributed Machine Learning	*2024 International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC)*, Bhubaneswar, India, 2024	2024	doi: 10.1109/ASSIC60049.2024.10507938.	https://ieeexplore.ieee.org/abstract/document/10507938
5	Performance Analysis of Cycle GAN in Photo to Portrait Transfiguration Using Deep Learning Optimizers	*IEEE Access*	2024	doi: 10.1109/ACCESS.2023.3337430	https://ieeexplore.ieee.org/abstract/document/10332183
6	Brain Tumor Detection Using Deep Learning-Based R-CNN	Advances in Data-Driven Computing and Intelligent Systems. ADCIS 2023.	2024	https://doi.org/10.1007/978-981-99-9531-8_39	https://link.springer.com/chapter/10.1007/978-981-99-9531-8_39
7	Agriculture Crop Recommendation System Using Machine learning	*International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC)*	2024	doi: 10.1109/ASSIC60049.2024.10507899.	https://ieeexplore.ieee.org/abstract/document/10507899
8	An Exploratory Assessment on Text Summarization	*International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC)*	2024	doi: 10.1109/ASSIC60049.2024.1050794	https://ieeexplore.ieee.org/abstract/document/10507947
9	Smart Attendance	*Second International*	2023	DOI: 10.1109/ICAIS	

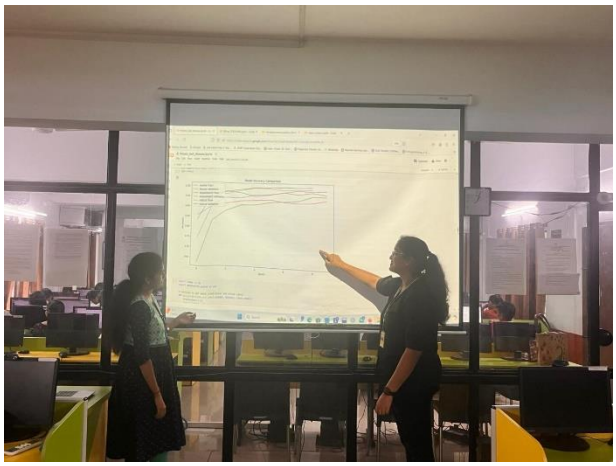
	System with Face Recognition using OpenCV	*Conference on Augmented Intelligence and Sustainable Systems (ICAISS 2023) IEEE Xplore Part Number : CFP23CB2-ART ; ISBN : 979-8-3503-2579-9*		S58487.2023.10250715	

Gallery:

1. **Emotion Prediction**

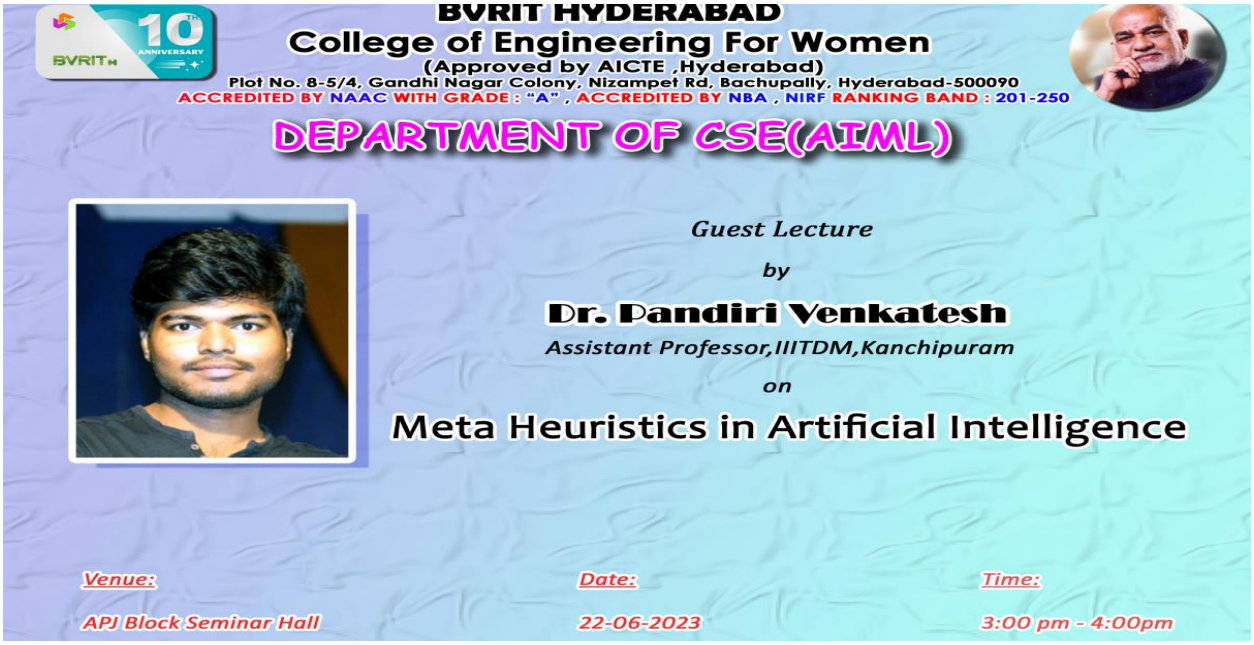
2. **Baggage Scanning and predicting harmful weapons**

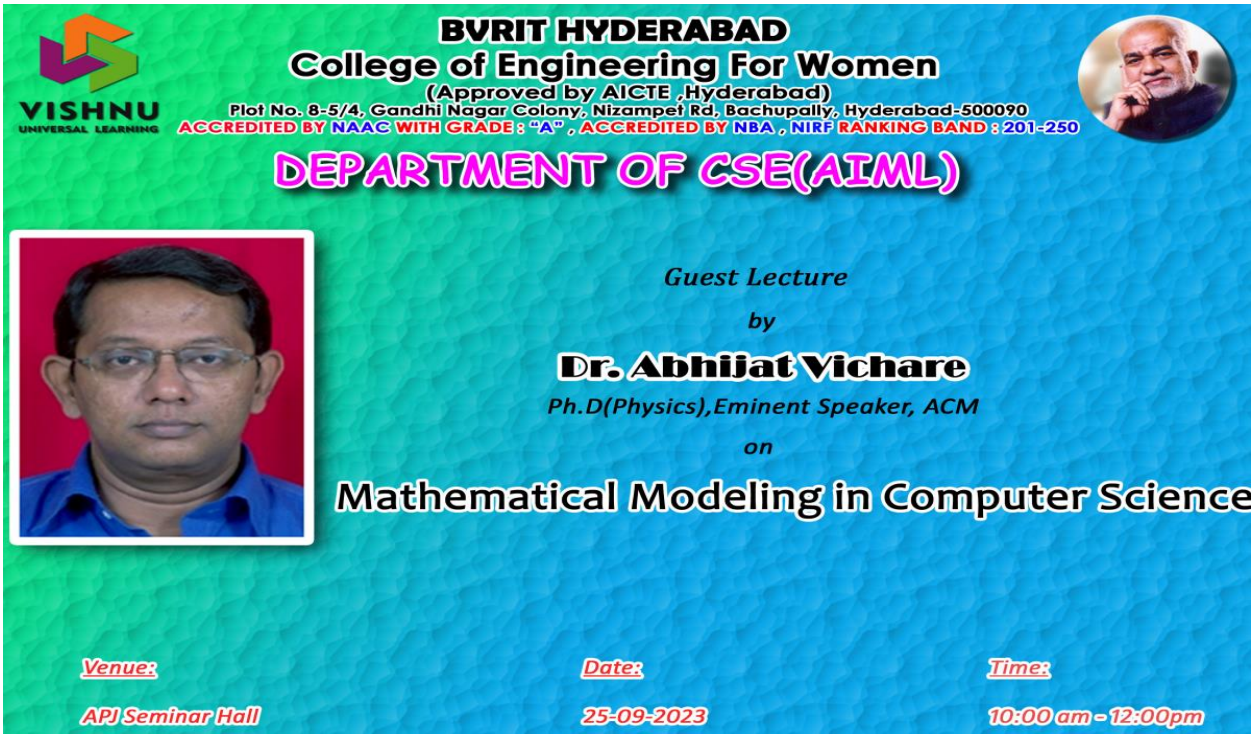
3. **Telugu Sign Language Prediction**

Activities Organized under COE:

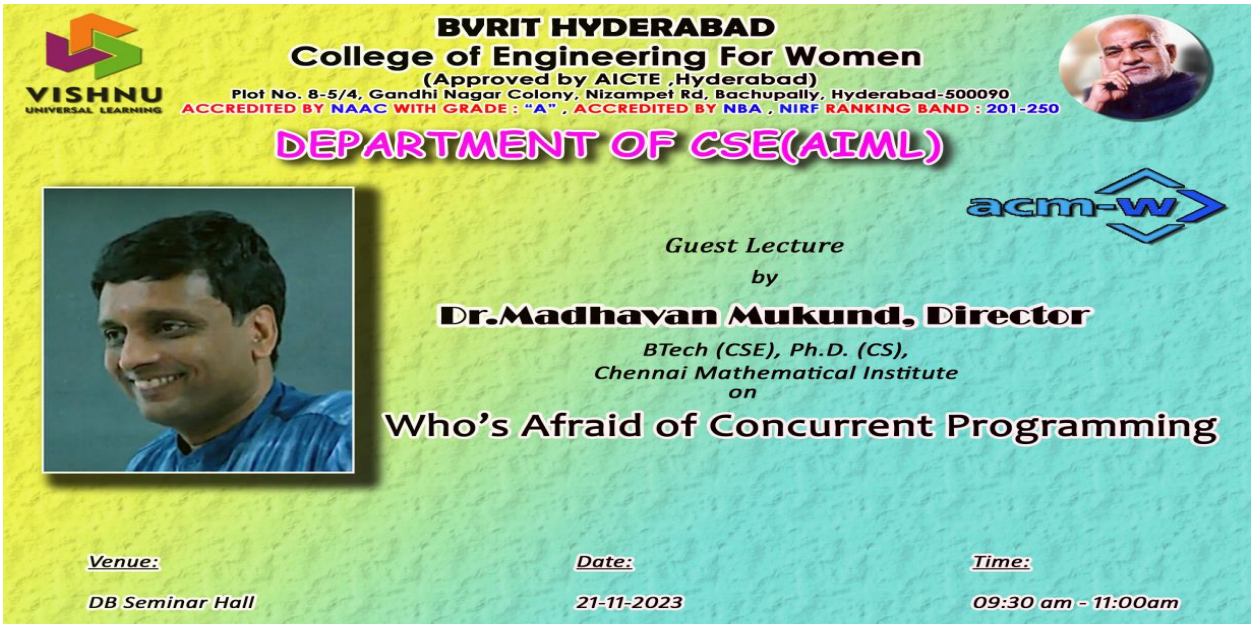
- **Guest Lectures on Meta Heuristics in Artificial Intelligence by Dr.Pandiri Venkatesh, Asst prof, IIITDM, Kanchipuram on 22-06-23.**



- **Guest Lectures on Mathematical Modeling in Computer Science by Dr.Abhijat Vichare, Eminent Speaker ACM on 25-09-2023.**

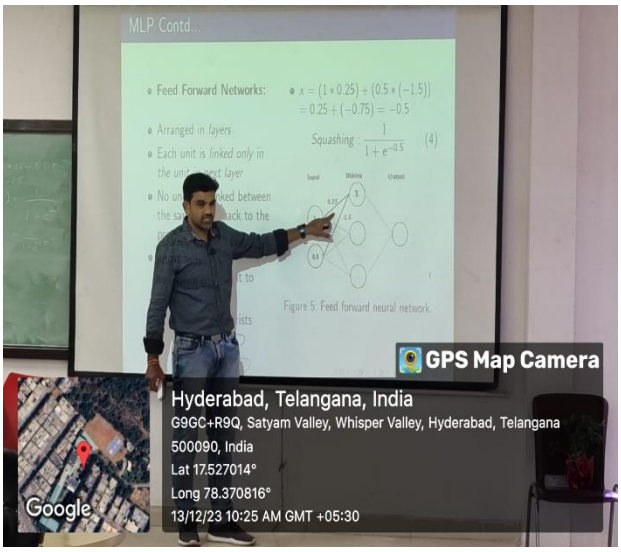


- **Guest Lecture on Whos Afraid of concurrent programming by Dr.Madhavan Mukund, Director, CMI, Chennai.**



- **Guest lecture on Responsible and safe AI by Dr.Ponnurangam Kumaraguru, IIITH on 2-4-24**

- **Faculty Development Programs – ATAL FDP on Artificial Intelligence For Agriculture Innovation**



Industrial Visit:

- **Faculty and students visited NAARM, Hyderabad to explore research possibilities in the area of agriculture and to develop collaborative research work.**

- **Faculty and students visited NRSC, Hyderabad to understand the requirements of AI in the area of satellite imaging analysis and to initiate research activities in collaboration with NRSC.**

- **Faculty and students visited ARAI, Pune to start Memorundam of Understanding with ARAI and to initiate research internship with ARAI for 3rd year students.**

- **Faculty and students visited VISA , Bangalore to buid industry connections and to understand industry requirements.**