IEEE Computational Intelligence Society (CIS) Summer School on Computational Advances in Deep Learning and Applications (CADLA 2023)

July 17-21, 2023, IIIT Allahabad, India

Website: https://cvbl.iiita.ac.in/seasonal-school/cadla2023/

CVBL IIIT Allahabad

Resource Persons

Prof. Mukul Sharad Sutaone

Director, IIIT Allahabad

Prof. Dipankar Dasgupta

University of Memphis, USA (IEEE Fellow and CIS Distinguished Lecturer)

Prof. KC Santosh

University of South Dakota, USA

Prof. R. Venkatesh Babu

IISc Bangalore

Prof. Nishchal K. Verma

IIT Kanpur

Prof. Chetan Arora

IIT Delhi
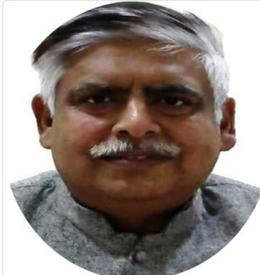
Prof. Pavan Chakraborty

IIIT Allahabad

Prof. Vrijendra Singh

IIIT Allahabad

Dr. Kiran Raja

Norwegian University of Science and Technology (NTNU)

Dr. Anil Kumar Singh

IIT-BHU Varanasi

Dr. Nayaneesh Mishra

NCode Sutram for AI

Dr. Suvidha Tripathi

LENS Corporation AI

Dr. Satish Kumar Singh

IIIT Allahabad

Dr. Shiv Ram Dubey

IIIT Allahabad

About: 2023 IEEE CIS Summer School on Computational Advances in Deep Learning and Applications (CADLA) was a one week short-term course organized by Computer Vision and Biometrics Lab (CVBL) at Indian Institute of Information Technology, Allahabad, Prayagraj during 17-21 July 2023. The summer school has been organized in completely physical mode.

Breakthroughs in the field of data science and computing power over the past two decades has made computational intelligence and deep learning the most powerful tools in the field of artificial intelligence. Deep learning algorithms have shown promising success in numerous applications of Computer Vision, Natural Language Processing, Robotics and Automation. Present day state-of-the-art algorithms have amazed everyone with their human level performance in classification, generating life-like images and videos, automated conversations and even beating world-champions at their own games. As the quest continues, deep learning has emerged out to be the most sought after skill in today's industrial scenario, right from the Tech Giants to Startups. This summer school aims to give the participants hands-on experience, right from the foundations, from some of the leading experts in the fields in the areas of computational intelligence, advances in deep architectures and applications using different modality of data.

Objectives: The objectives of the summer school are highlighted as follows,
- Building awareness towards computational advances in deep learning architectures.
- Building communities of research students, educators, R&D and Industry persons in the trending areas of computational intelligence and deep learning.
- Providing tutorial and hands-on demo sessions, where the participants can experiment with concepts and methods.
- Building the technical capacity in the area of computational intelligence via deep architectures.
- Facilitating the learning of participants through the internationally renowned experts in the domain.

Important Dates:
- Registration Opens on   May 17, 2023
- Registration Deadline   June 30, 2023
- Registration Confirmation Notification (First Come First Serve Basis)   June 30, 2023
- Summer School Date   July 17-21, 2023

Registration Statistics:
- Total Number of Registration (All from India)   85
- Number of Registration from Other Institutes   72
- Number of Registration from Host Institution   13
- Number of Student Participants   62
- Number of Faculty Participants   19
- Number of R&D Professional Participants   4
- Number of Different Institutions of Participants   37
- Number of Different States of Participants   17
- Number of IEEE Member Participants   10
- Number of Participants Interested to take IEEE CIS membership   28

Average Participant Feedback Score: **4.58 out of 5**

Program Schedule

Time	17-July-2023 Monday	18-July-2023 Tuesday	19-July-2023 Wednesday	20-July-2023 Thursday	21-July-2023 Friday
10.00 AM - 11.00 AM	Inauguration	Keynote Talk by Prof. Chetan Arora, IIT Delhi	Talk by Dr. Shiv Ram Dubey, IIIT Allahabad	Talk by Prof. Pavan Chakraborty, IIIT Allahabad	Keynote Talk by Prof. KC Santosh University of South Dakota, USA
11.00 AM - 11.30 AM	Tea Break and Networking (CC3)				
11.30 AM - 12.30 PM	Talk by Dr. Satish Kumar Singh, IIIT Allahabad	Keynote Talk by Prof. Nishchal K Verma, IIT Kanpur	Talk by Dr. Shiv Ram Dubey, IIIT Allahabad	Talk by Prof. Mukul Sharad Sutaone, Director, IIIT Allahabad	Talk by Dr. Suvidha Tripathi, LENS Corporation AI
12.30 PM - 02.30 PM	Lunch (VH1)				
02.30 PM - 03.30 PM	Keynote Talk by Dr. Kiran Raja, NTNU Norway	Talk by Dr. Shiv Ram Dubey, IIIT Allahabad	Keynote Talk by Dr. Anil Kumar Singh, IIT-BHU Varanasi	IEEE CIS Distiguished Lecture by Prof. Dipankar Dasgupta, University of Memphis, USA	Valedictory
03.30 PM - 04.00 PM	Tea Break and Networking (CC3)				
04.00 PM - 05.00 PM	Keynote Talk by Prof. R. Venkatesh Babu, IISc Bangalore	Talk by Prof. Vrijendra Singh, IIIT Allahabad	Talk and Hands-On Demo by Dr. Nayaneesh Mishra (NCode Sutram for Artificial Intelligence private limited)	Talk and Hands-On Demo by Dr. Anil Kumar Singh, IIT-BHU Varanasi	Departure
05.00 PM - 06.00 PM	Hands-On Demo by Dr. Nayaneesh Mishra (NCode Sutram for Artificial Intelligence private limited)	Hands-On Demo by Dr. Satish Kumar Singh & Ms. Priyam Pandey (IIIT Allahabad)		Talk and Hands-On Demo by Dr. Shiv Ram Dubey & Mr. Akash Verma, IIIT Allahabad	

Day 1: 17 July 2023

Time	Name	Affiliation	Title of Talk
10.00 AM - 11.00 AM	**Inauguration** Chief Guest: Prof. Mukul Sutaone, Director, IIIT Allahabad Guest of Honor: Prof. B.N. Chaudhari, Principal, Sardar Patel Institute of Technology, Mumbai Prof. Manish Goswami, Dean (Academic and Research), IIIT Allahabad Prof. Pavan Chakraborty, Officiating Head, IT Department, IIIT Allahabad Dr. Satish Kumar Singh, Chair, IEEE UP Section [Coordinator, CADLA 2023] Dr. Akhilesh Tiwari, Secretary, IEEE Uttar Pradesh Section		
02.30 PM - 03.30 PM	**Dr. Satish Kumar Singh**	IIIT Allahabad	Deep Learning Essentials
02.30 AM - 03.30 PM	**Dr. Kiran Raja**	Norwegian University of Science and Technology (NTNU), Norway	Wireless Capsule Endoscopy for Early Pathology Detection
04.00 PM - 05.00 PM	**Prof. R. Venkatesh Babu**	IISc Bangalore	Learning from Long-Tailed Datasets: Challenges, Techniques and Strategies
05.00 PM - 06.00 PM	**Dr. Nayaneesh Mishra**	NCode Sutram for Artificial Intelligence private limited	Hands-On Demo on Deep Learning Tools

Day 2: 18 July 2023

Time	Name	Affiliation	Title of Talk
10.00 AM - 11.00 AM	**Prof. Chetan Arora**	IIT Delhi	Beyond Accuracy: Making Deep Neural Networks Reliable
11.30 AM - 12.30 PM	**Prof. Nishchal K Verma**	IIT Kanpur	AI and Deep Fuzzy Networks
02.30 PM - 03.30 PM	**Dr. Shiv Ram Dubey**	IIIT Allahabad	Deep Learning: Optimization and Regularization
04.00 PM - 05.00 PM	**Prof. Vrijendra Singh**	IIIT Allahabad	Deep Learning for Time Series Analysis and Applications
05.00 PM - 06.00 PM	**Dr. Satish Kumar Singh & Ms. Priyam Pandey**	IIIT Allahabad	Hands-On Demo on Deep Learning

Day 3: 19 July 2023

Time	Name	Affiliation	Title of Talk
10.00 AM - 11.00 AM	**Dr. Shiv Ram Dubey**	IIIT Allahabad	CNN Architectures
11.30 AM - 12.30 PM	**Dr. Shiv Ram Dubey**	IIIT Allahabad	Self-Supervised Learning
02.30 PM - 03.30 PM	**Dr. Anil Kumar Singh**	IIT-BHU, Varanasi	Challenges in Natural Language Processing for Low Resource Languages
04.00 PM - 06.00 PM	**Dr. Nayaneesh Mishra**	NCode Sutram for Artificial Intelligence private limited	Talk and Hands-On Demo on 2D and 3D CNN

Day 4: 20 July 2023

Time	Name	Affiliation	Title of Talk
10.00 AM - 11.00 AM	**Prof. Pavan Chakraborty**	IIIT Allahabad	Deep Learning in Signal Processing and Robotics
11.30 AM - 12.30 PM	**Prof. Mukul Sharad Sutaone**	IIIT Allahabad	Time Series Analysis
02.30 PM - 03.30 PM	**Prof. Dipankar Dasgupta**	University of Memphis, USA	Adversarial Machine Learning and Defense Strategies
04.00 PM - 05.00 PM	**Dr. Anil Kumar Singh**	IIT-BHU	Challenges in Natural Language Processing for Low Resource Languages [Demo]
05.00 PM - 06.00 PM	**Dr. Shiv Ram Dubey & Mr. Akash Verma**	IIIT Allahabad	Hands-On Demo on Transformer Network

Day 5: 21 July 2023

Time	Name	Affiliation	Title of Talk
10.00 AM - 11.00 AM	**Dr. Suvidha Tripathi**	LENS Corporation AI	Modelling single 2D image to a 3D video: What other interesting things we can do with AI!
11.30 AM - 12.30 PM	**Prof. KC Santosh**	University of South Dakota, USA	AI for Medical Imaging Informatics: xAI and Active Learning?
02.30 PM - 03.30 PM	**Valedictory and Certificate Distribution** Chief Guest: Prof. KC Santosh, University of South Dakota, USA Guest of Honor: Dr. Satish Kumar Singh, Chair, IEEE Uttar Pradesh Section [Coordinator, CADLA 2023] Dr. Suvidha Tripathi, LENS Corporation AI Dr. Shiv Ram Dubey, Co-orordinator, CADLA 2023 Dr. Navjot Singh, Convener, CADLA 2023		

IEEE CIS CADLA 2023 Summer School Pictures