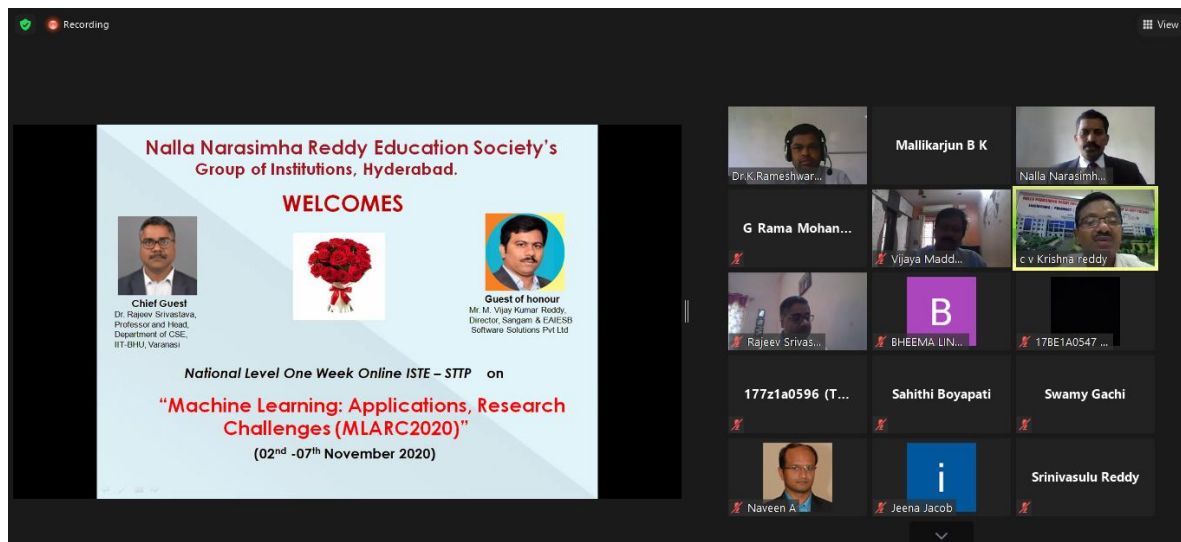


National Level One week Online ISTE – STTP on “Machine Learning: Applications, Research Challenges (MLARC2020)” (02nd -07th November 2020)

The one week STTP on Machine Learning :Applications ,Research challenges 2020(MLARC2020) has been inaugurated in the FN of 2nd November 2020. Dr G.Janardana Raju, DEAN, School of Engineering has welcomed all the participants and invitees across the country and addressed the serious need of Machine Learning and allied technologies in the present days. The Director Dr C.V. Krishna Reddy addressed the training programme participants and organizers and informed to utilize the six day sessions effectively to gain maximum benefit. Another co-coordinator of the programme Dr K.Rameshwaraiah, Prof & HOD - CSE has given the importance of research topics in the domain of machine learning with live and real time examples and how important the domain in the present day scenario.



Chief Guest : Dr. Rajeev Srivastava, Professor and Head Department of CSE, IIT-BHU Varanasi, giving keynote of the programme.

Guest of Honour : Mr.M.Vijay kumar Reddy, Director, Sangam IT Solutions

Dr Rajeev Sreevastava, Prof. & Head Dept. of CSE, IIT BHU, Varanasi has been the chief guest for the inaugural session and given key note for the STTP. In his note, he has explained the Applications of Artificial intelligence, Computer Vision and use of probability theory in machine learning, Components and Applications of IoT in detail. Followed the key note, Mr M. Vijay Kumar Reddy, Director, Sangam & EAIESB Software Solutions Pvt. Ltd., has enlightened schematic and over view of Machine Learning in real time usage. Dr Jeena Jacob, Associate Professor, GITAM University explained the importance of data science and types of learning like Machine learning, deep learning, supervised and unsupervised learning and applications of each in detail with example problems.

On Day 2, Mr. M.Vijay Kumar Reddy has explained about digital transformation and revolutionize customer experiences and elaborated that Artificial Intelligence is the intersection of computer science and mathematics. Followed by Dr Atul Nagi, Professor from University of Hyderabad elucidated on Artificial intelligence for social good and highlighted regarding micro volunteering, use cases for AI and social good, Machine learning process, Machine learning versus deeplearning, deep learning applications.

In the afternoon session of day 2 Mr.Venkat Naik, Director, Native Tech Hub Software Solutions delineated the “Numpy” and its features, libraries etc

On 3rd day first session Dr. Aruna Malapati, Professor, BITS Pilani Hyderabad Campus has given an illustration of Supervised learning algorithms, difference between supervised and unsupervised learning, probabilistic Vs discriminative learning, conditional probability and Naive Baye’s theorem continued by second session. Dr.S.Viswanada Raju, Professor and Vice-Principal, JNTUH college of engineering, Jagityal explained Artificial Neural networks with real time examples, deeplearning architecture and its applications. In the last session of the day earlier speaker Mr. Venkat Naik continued the hands-on session on supervised learning techniques with linear regression techniques and practical session correlation analysis with prediction, demonstration on linear regression using python.

On day 4th day of the STTP first session again continued by Dr. S.Viswanada Raju with a perspective to the usage of logic gates such as AND, OR, NOR ,NOT gates etc., in single and multilayer neural networks . Second session has been handled by Dr A.G. Ramakrishnan, Professor, IISc, Bangalore and given wide

range analysis on hard coded features and DNN foundation for machine learning linear algebra.

Binary Document image superresolution – with rich inputs

Input patch 16X16

Layer 1: 8 Filters 5X5

Layer 2: 4 Filters 3X3

Layer 3: 1 Filter 3X3

Output Patch 32 X 32

Word Level Accuracy Table:

Input	Bicubic-x4	Bilinear-x4	Nearest neighbor-x4	NFMI reconstruction-x4	NFMI-Reconstructed-x4
4.09	15.38	7.69	16.48	21.98	21.98

Participants: AGR, Dr. G.Janard..., Dr.K.Ramesh..., NNRG-CSE, Radhika, VISHNU, K, BIRRU DEVE..., K MURALI C..., ramakrishna s, Ramadugu.R...

Dr. Ramakrishnan A G Professor Indian Institute of Science, Bangalore, explaining Binary Documenting Image.

Third session handled by Dr P.Krishna Reddy, Professor IIIT Hyderabad, he epitomized the experiences of building IT-Based systems to deliver actionable agricultural information to Indian farmers and E-Sagu, Crop Darpan etc.

On 5th day, in the first session Mr.Venkat Naik given a complete illustration on Machine learning hands on unsupervised learning, clustering, K-Means, Manhattan, Euclidean distance methods for clustering. In second session Dr. Salman Abdul Moiz, Prof., CSE UOH has explained about data visualization process and tools, need for visualization. In the evening session Dr Vadlamani Ravi, Professor, IRDBT, Hyderabad elaborated on Research challenges and Applications of Machine learning.



Dr AVSSKS Gupta , Prof and HOD-MECH JNUTH, ISTE Secretary Telangana State,

Dr. P. Radha Krishna Professor and Head Department of Computer Science and Engineering, NITWarangal, Addressing in valedictory session

On 6th and last day of the programme in first session Dr. Jayapriya Kalyankumar, Director, Research Associate, Vin Solutions, Tamilnadu has given detailed note on Deep learning in compute vision, basics and history, Neural networks with convolution layers etc. In Second session Dr P. Radhakrishna, Professor & Head CSE, NITW explained about Machine learning trends and applications, multimodality, predictive modeling, Bayesian network with results. In the afternoon and last session participants have given feedback stating they have refined their knowledge a lot with this 6 day STTP and asked the organizers to conduct many such in future also. For this session, *Dr AVSSKS Gupta* and *Dr P. Radhakrishna* have been the distinguished guests, addressed the participants and congratulated the organizers.