

ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDRAVARAM

University College of Engineering

Department of Electronics & Instrumentation Engineering

Mr. J. Hanumanthu,
Course Coordinator



Mobile No. +91 70135 70933
Mail id: eie.uceng@aknu.edu.in

Report of one-day Workshop on

“Recent Advances in Research in the areas of AI and ML with Reference to Applications in Science and Engineering”

on 28-12-2021, at 10:30 AM AY: 2021-22

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1.Introduction

The Department of EIE, University College of Engineering, in collaboration with skill development center of AKNU, has organized one-day workshop on “Recent advances in the areas of AI and ML with reference to applications in Sciences and Engineering”.

The underlying idea behind conducting this one-day workshop is to explore the Artificial Intelligence and Machine Learning concepts in the Real Time Engineering Sciences application.

The present scenario of Science and Technology is immersed with applications of the AI and ML for optimal way of achieving the desired targets. As the emerging of AI & ML paves way for the solving the practical engineer problems with less time and with less computational complexity. The main emphasis is made upon the AI & ML in the areas of system and control to achieve maximum product with less cost. The aspects of the application of these AI & ML illustrated with Real time examples in Engineering.

2. Brochure



ADIKAVI NANNAYA UNIVERSITY

ఆదికవి నన్నయ విశ్వవిద్యాలయం

RAJAMAHENDRAVARAM, ANDHRA PRADESH INDIA - 533296

ISO 9001:2015 Certified



One Day Work Shop

On

**Date:
28-12-2021**

**Recent Advances in Research in the Areas of AI and ML with Reference to
Applications in Science and Engineering**

Eligibility:

All streams of B.Tech,
UCE.

M.Sc Students, Research
Scholars, UCST.

Faculty of Engineering
and Science.

CHIEF PATRON



Prof. MOKKA JAGANNADHA RAO
Vice Chancellor
ADIKAVI NANNAYA UNIVERSITY

PATRON
Prof.T. ASHOK
Registrar.

CO- PATRONS

Dr. K. RAMANESWARI
PRINCIPAL, UCST, AKNU.

Dr. V. Persis
Principal, UCE, AKNU.

Resource Persons:



Dr. Perugu Shyam
Assistant Professor, NIT,
Warangal



Prof. P.V.S.MACHI RAJU

**Organizing
By
DPARTMNT OF EIE, UCE
and
Skill Development Center
ADIKAVI NANNAYA UNIVERSITY
RAJAHMUNDRY-533 296.
Andhra Pradesh, INDIA.**

CONVENER
Dr. B. JAGAN MOHAN REDDY
Skill Development Coordinator
ADIKAVI NANNAYA UNIVERSITY

3. Registrations

ONE DAY WORKSHOP
ON
**RECENT ADVANCES IN RESEARCH IN THE AREAS OF AI AND ML WITH
REFERENCE TO APPLICATION IN SCIENCE AND ENGINEERING**
ORGANIZED BY DEPT. OF EIE & SKILL DEVELOPMENT CENTER
Date : 28/12/2021

S.NO	NAME OF THE PARTICIPANT	FACULTY/STUDENT	DESIGNATION	YEAR OF STUDY	SIGN
	B. LAKSHMI	Faculty	Asst. prof	-	
	V. S. S. Mounika	"	"	-	
	D. K. Divya Rao	Faculty	Asst. Prof	2020	
	N. Sanjay Kumar	student	St. MSC-DEU	2020	
	G. Parthiban	student	MSC AQUA	2020	
	K. Sasidharan Iyengar	"	"	2020	
	M. Satish chandhra	"	"	2020	
	N. Anil dhasana Prakash	"	M.Sc Maths	2020	
	Ch. Saranya	"	"	"	
	A. Divya Bhargavi	student	MSC-mech S	2020	
	A. DEVI	"	"	"	
	M. Sai Shreetha Devi	"	"	"	
	SK. Nalini	"	"	"	
	N. Lalanya	"	"	"	
	Ch. Nagasri	"	"	"	
	D. Madhuri	"	"	"	
	D. Gayatri	"	"	"	
	T.C.P. Kuri	"	M.Sc Geophysics	"	
	M. Honey Sumanthya	"	M.Sc Geophysics	"	
	N. Kumari Kavalini	"	"	"	
	Padvela Vamsi	Student	Btech 1 st year Civil	2021-22	
	A. Sai Mallika	student	MCA 2nd year	2021-22	
	M. Pravalika	"	"	"	
	P. Ruma Aparna	"	"	"	
	P. Bhargavi	"	"	"	
	K. Ansa Anva	"	"	"	
	Ch. Vahalaakshari	"	"	"	
	S. DeVika	"	"	"	
	S. Sai Stee	"	"	"	
	Steik. Shanthan	"	"	"	
	S. Neelima	"	"	"	
	Y. Nishitha	"	"	"	
	Ch. V. Saiteja	"	ECE	1st yr	
	M. Sanjay	"	ECE	1st yr	
	P. Murali Kumar	"	ECE	1st yr	

ONE DAY WORKSHOP

ON

RECENT ADVANCES IN RESEARCH IN THE AREAS OF AI AND ML WITH
REFERENCE TO APPLICATION IN SCIENCE AND ENGINEERING

ORGANIZED BY DEPT. OF EIE & SKILL DEVELOPMENT CENTER

Date : 25/12/2021

S.NO	NAME OF THE PARTICIPANT	FACULTY/STUDENT	DESIGNATION	YEAR OF STUDY	SIGN
1	O. Krishnaveni	Student	II nd M.Sc. Math	2 nd year	O. Krishnaveni
2	S. Sivarani	Student	M.Sc. (Maths)	II nd year	S. Sivarani
3	J. Satya Sri	Student	III rd M.Sc. (Maths)	3 rd year	J. Satya Sri
4	Ch. Sujatha Reddy	Student	M.Sc. (Maths)	II nd year	Ch. Sujatha Reddy
5	N. Mahi	Student	III rd year	3 rd year	N. Mahi
6	V. Sri Ram	"	" Math.	"	V. Sri Ram
7	V. V. Ravi	"	II nd year EIE	II nd year	V. V. Ravi
8	Ch. Siva Shankar	"	"	"	Ch. Siva Shankar
9	J. Jagadeesh	Student	I st year EIE	I st year	J. Jagadeesh
10	P. Praveen	"	2 nd year	2 nd year	P. Praveen
10	G. Bala Hari Prasanna	"	M.Sc. Zoology	2 nd year	G. Bala Hari Prasanna
11	M. Divya Nagarajani Devi	"	M.Sc. Zoology	"	M. Divya
12	Ch. Ramya	"	II nd M.Sc. Zoology	"	Ch. Ramya
13	S. Purnima	"	II nd M.Sc. Zoology	"	S. Purnima
14	P. Pavan	"	II nd M.Sc. Zoology	"	P. Pavan
15	Md. Shamseer	Student	II nd M.Sc. Zoology	II nd Year	Md. Shamseer
16	Nk. Hazara	Student	II nd msc zoology	II nd Year	Nk. Hazara
17	B. Anusmita	"	"	"	B. Anusmita
18	T. Baby Sivani	"	"	"	T. Baby Sivani
19	A. Rathiya	"	"	"	A. Rathiya
20	D. Jyothsna	"	"	"	D. Jyothsna
21	K. Gayathri	"	"	"	K. Gayathri
22	S. Srinivasan	"	II nd M.Sc. Agriculture	"	S. Srinivasan
23	V. Lakshmi Prasanna	"	"	"	V. Lakshmi Prasanna
24	L. Jahnvi	"	"	"	L. Jahnvi
25	M. Ramya	"	"	"	M. Ramya
26	B. Thanvi	"	"	"	B. Thanvi
27	R. Sanitha	"	"	"	R. Sanitha
28	G. Devi	"	"	"	G. Devi
29	J. Vijay Kumar	"	II nd msc - physics	"	J. Vijay Kumar
30	N. Nalini	"	II nd M.Sc. Physics	"	N. Nalini
31	M. Vijaya Vamsi	"	b tech ECE	I year	M. Vijaya Vamsi
32	K. S. Divya	"	II nd MCA	II nd year	K. S. Divya

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Date : 28/12/2021

S.NO	NAME OF THE PARTICIPANT	FACULTY/STUDENT	DESIGNATION	YEAR OF STUDY	SIGN
	K Hemasri	Student	C.S.E	II	<i>[Signature]</i>
	K. Jayashree Varsh	Student	CSE	II	<i>[Signature]</i>
	Tiruvengadam kumar	Student	CSE	II	<i>[Signature]</i>
	K. Ramu	Student	MCA	II MCA	<i>[Signature]</i>
	P. Rajulaku	Student	MCA	II	<i>[Signature]</i>
	K. Pavan Kumar	Student	MCA	II MCA	<i>[Signature]</i>
	K. Pavan Teja	Student	MCA	II MCA	<i>[Signature]</i>
	E.V. Prasad	"	"	"	<i>[Signature]</i>
	M. Prasad	"	EIE	1st year	<i>[Signature]</i>
	C.H. Harsha	"	"	"	<i>[Signature]</i>
	A. Prateep	"	"	"	<i>[Signature]</i>
	J. Srikanth	"	"	"	<i>[Signature]</i>
	V. Sampurna	"	Misc	2nd year	<i>[Signature]</i>
	J. Sagar	"	EIE	1st year	<i>[Signature]</i>
	P. Anja Prasad	"	EIE	I	<i>[Signature]</i>
	S. Pavan Teja	"	EIE	1st year	<i>[Signature]</i>
	K. Sumanth	"	EIE	1st year	<i>[Signature]</i>
	S. Pheeraj	"	EIE	2nd year	<i>[Signature]</i>
	M. Deepak Reddy	Student	B.Sc (Computer Science)	2nd year	<i>[Signature]</i>
	Ch. Vidya Prasad	Student	M.Sc (Applied Maths)	2nd year	<i>[Signature]</i>
	S. Veeshresh	"	M.Sc (Applied Maths)	3rd year	<i>[Signature]</i>
	A. Sanyal Reddy	"	CSE	1st year	<i>[Signature]</i>
	M.S.K. Sanyal	"	E.C.E (7 year)	1st year	<i>[Signature]</i>
	B. J. Vinayak Reddy	"	E.C.E	1st year	<i>[Signature]</i>
	C. G. Anurag	"	M.Sc (Physics)	2nd year	<i>[Signature]</i>
	M. Sri Lakshmi	"	"	"	<i>[Signature]</i>
	A. Vani	"	"	"	<i>[Signature]</i>
	D. Karan	"	"	"	<i>[Signature]</i>
	K. Goviltharani	"	"	"	<i>[Signature]</i>
	B. Bharan Teja	"	"	"	<i>[Signature]</i>
	T. Tarun Sri Teja	"	"	"	<i>[Signature]</i>
	D. Jagi	"	"	"	<i>[Signature]</i>
	B. Bharan Prasad	"	"	"	<i>[Signature]</i>
	M. Praveethi	"	"	"	<i>[Signature]</i>

4. welcome address

The workshop was started with welcome address by Mr. J. Hanumanthu, course coordinator of EIE Department & Organizing committee member of the workshop. In his opening speech, he conveyed his greetings to Honorable Vice Chancellor professor Mokka Jagannadha Rao, convener of the one- day workshop Dr. B. Jagan Mohan Reddy skill development coordinator, Co-patrons of this workshop. Dr. V. Persis, Principal University college of Engineering, Dr. K. Ramaneswari, Principal University college of science and Technology and cordially invited the course-coordinators of various departments and students of UCE, UCST. He briefed about the various key initiatives taken by the Department of EIE and motivation to organize the one-day workshop. He acknowledged the support of honorable Vice-Chancellor, Principal, Skill development coordinator to put the efforts to brought the workshop to an worthful. In addition to the he briefed about the departmental activities which are undertaken and further initiatives yet to materialized in future.

5. Opening remarks by convener

The opening remarks for the inaugural address was presented by Dr. B. Jagan Mohan Reddy skill development coordinator, Adikavi Nannaya University. In his address he briefed about the significance of the skill development center. In his Inaugural address he acknowledged the support of honorable Vice Chancellor prof. Mokka Jagannadha Rao, and Registrar prof. T. Ashok for approving this one-day workshop and providing all the necessary arrangements to make it fruitful to the students and Faculty of University College of Engineering and University College of Science and Technology.

6. Address by Co-patron-1 of the workshop

The one of Co-Patron of the workshop Dr. V. Persis has briefed about the significance of the workshop. She appreciated the organizing committee, convener of the one-day workshop program with suitable title for the benefit of the students & faculty. Finally, she instructed the students to explore the further opportunities in the area of ML & AI for Projects & Internships. She acknowledged the support of honorable Vice Chancellor professor Mokka Jagannadha Rao for extending his kind cooperation to conduct various academic development activities of the University College of Engineering.

7. Addressing by Co-patron-2 of the work shop

The one of Co-Patron of the workshop Dr. K. Ramaneswari, Principal university College of Science and Technology has addressed the inaugural ceremony. In her address she congratulated the convener and organizing committee members for conducting this workshop and briefed about the AI & ML can be applied to sciences to make the experiment analysis and research aspects to easier one, instead of conventional methods. Finally, she acknowledged the efforts taken by VC sir to reach out these academic activities to inculcate the research culture that leads to updating on par with current research methods.

8. Message by Honorable VC

The honorable Vice Chancellor has addressed the Inaugural ceremony. In his address he appreciated the convener and organizing committee members of the one day workshop. Honorable Vice Chancellor has briefed about the emerging areas of AI & ML for the better research exploring of the application in the field of Science and Technology. The Vice Chancellor has instructed all the faculty and students to focus on research activities, internships & projects and come out with new ideas for funding from various funding agencies for the University. He appreciated the resource persons Dr. P. Shyam, Assistant professor, Department of Bio-Technology, NIT Warangal and Dr. PVS Machiraju, Professor & Dean, Department of chemistry, Pragathi Engineering College, Surampalem, Kakinada for immediately accepting the invitation to grace this occasion and conveyed is best wishes to all. Finally, he advised all the faculty and students to make use of this workshop opportunity for further collaborations to excel in academics and research.

9. Felicitations to speakers

As a token of gratitude & respect, the resource persons & the dignitaries was felicitated by honorable Vice Chancellor with momentums and shallow. As a token of gratitude the convener of the workshop along with principal, University College of Engineering & principal, University College of Science and Technology were felicitated the Honorable Vice Chancellor.



Felicitation to Resource Person Dr. P. Syam, Assistant Professor, NIT Warangal by Hon'ble Vice- Chancellor



Felicitation to Resource Person Dr. PVS MACHIRAJU, Professor & Dean, Department of chemistry, Pragathi Engineering College, Surampalem by Hon'ble Vice- Chancellor



Felicitation to Hon'ble Vice- Chancellor Prof. Mokka Jagannadha Rao garu.



Felicitation to Convener, Skill Development Center Coordinator Dr. B Jagan Mohan Reddy, by Hon'ble Vice- Chancellor

10. Technical Session-1

The first technical session was dealt by Dr. P. Shyam of NIT Warangal, Department of Bio-Technology. Before starting the session, the biodata of the resource person was introduced to the audience by Dr. D. Kishore Assistant Professor, Dept. of EIE. The Presentation was

started with an Introduction of Artificial Intelligence, scope and overview of the AI in the current scenario and the Latest Technologies.

The talk has discussed about the differences between Artificial Intelligence and Machine Learning and Breakdown of Industrial development and great changes related categories. The talk also presented the Industrial evolutions of the starting from industry 0 to industry 4.0.

The talk has presented the Deep Learning concepts. Deep learning process information in the same manner as the human brain. It is used in technologies such as driver-less cars. The evolutions of Deep Learning explained as it is evaluated with Artificial Intelligence to Deep Learning. The technical talk also Introduced the concepts of big data analytics which can be scaled, diversified, complexity requires new techniques and algorithms to manage it and extract value. The technical difference between the Big data analytics and Machine Learning were elaborated.

Further the technical session elaborately discussed the differences between the AI based approach and traditional programming also. Real time applications of AI for Engineering applications was illustrated with examples such Bio informatics, video, image classifications, natural language processing, text classification, document sorting.

The technical session also throws a light on Machine Learning which is a subset of AI that uses statistical learning algorithms to build smart systems. The ML systems can automatically learn and improve without explicitly being trained. The talk has presented concepts of Artificial neural networks and the basic concept of the ANN and application of AI in the field of Bio-medical applications such as EEG, ECG, Respiration rate, Galvanic skin response and explored the research directions in the bio-medical Engineering.

The technical talk was conducted with possibilities of exploring the Research directions in the area of automation and control and applying these concepts in the areas of cyber physical systems.

11. Technical session 2

The second technical session was handled by Dr. PVS Machiraju, Professor & Dean, Department of chemistry, Pragathi Engineering College, Surampalem. Dr. Srinivasarao Divi, Assistant professor, from Dept. of EIE was introduced resource person to the Audience by reading his biodata. The technical session has started with Research methodologies and abstract

writing concept and the skill required to be followed for effective Research methods. The technical talk has a throw light on the writing research proposal and funding agencies. The talk has given on ethics to be follow in the research and flavor of the inter disciplinary research to be followed.

12. Concluding Remarks

The meeting was concluded with final remarks by the one of the organizing committee member Dr .D. Kishore , Assistant Professor, Department of EIE, university college of Engineering. In his concluding speech, the proceeding of the workshop and the summary of the technical session 1 & summary of technical session 2 was discussed in brief for the overall view of the workshop and main emphasis of the workshop was decimated to the participants for better understanding of the workshop.

13.Outcome of the workshop

- The main outcome of this one-day workshop was to provide the insights of the AI and ML concepts in the Engineering and science applications.
- The session has provided the current scenario of research trends with application of AI &ML concepts.
- Case studies with Deep learning and machine learning algorithms are elaborated for the benefit of the students.
- The interactions in the technical session has provided a platform for the exchange of ideas and clarifications with the resource persons.
- The one-day work shop has provided an opportunity for the students and faculty for research collaboration's and internship opportunities.
- The workshop has created the platform faculty to discuss their research works.
- The workshop has finally shown a direction for further exploring in the research areas of machine learning and Big data analytics approaches in the interdisciplinary field of science and technology