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MANIAMMAI**
INSTITUTE OF SCIENCE & TECHNOLOGY
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PROGRAMME REPORT ON

Workshop-DEEP DIVE TO NEURAL NETWORKS

Resource Person

Mr. R. NARESH GIRIDHARAN Visiting Faculty of NITs and Anna
University Former CEO of InteQsys Pvt Ltd (1996 to 2012)

Organized by

INFORMATICS- PMIST



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Tamil Nadu, India. | www.pmu.edu

DEPARTMENT OF INFORMATICS

Faculty of Computing Science and Applications (FCSA)

EVENT REPORT

1.	Event Category (Seminar / FDP / STTP / Workshop / Conference /...)	WORKSHOP
2.	Title of the Programme	Workshop on “DEEP DIVE TO NEURAL NETWORKS”
3.	Period: <ul style="list-style-type: none">• Date (From ___ to ___)• Time	<ul style="list-style-type: none">• 05 - 09, November 2024• 9.00 AM to 4.00 PM
4.	Beneficiaries: <ul style="list-style-type: none">• In-house / Others / Both• Students / Faculty / Staff	<ul style="list-style-type: none">• In-house• Students
5.	NAAC / NBA / NIRF / Others	NAAC Criteria 5.3.1: 1 - Soft Skills NAAC Criteria 5.3.1: 4 - Awareness of trends in Technology
6.	Associated SDG(s)	4 and 9
7.	Mode: <ul style="list-style-type: none">• Offline / Online• Venue / Online Platform	<ul style="list-style-type: none">• Offline• CNGN Lab (PKC 314)
8.	Coordinator(s) / Co-Coordinator(s)	Coordinator(s): Dr. A. MUTHAMIZH SELVAN Associate Professor and Head Co-Coordinator(s): Dr. V. RAJKUMAR, Asst. Prof. (SG) Dr. M. MANIKANDAN, Asst. Prof. Department of Informatics
9.	Resource Person(s)	Mr. R. NARESH GIRIDHARAN Visiting Faculty of NITs and Anna University Former CEO of InteQsys Pvt Ltd (1996 to 2012)
10.	Number participants	<ul style="list-style-type: none">• Female Students : 24• Male Students : 15

		• Total : 39
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WORKSHOP ON “DEEP DIVE TO NEURAL NETWORKS”

The Department of Informatics, under the banner of its association VISTA (Visionaries on Informatics in Science, Technology, and Analytics), organized a five-day workshop titled “Deep Dive to Neural Networks” from November 5–9, 2024. This hands-on, offline training session was held at the CNGN Lab (PKC 314), with the participation of 39 students (24 female and 15 male) from M.Sc. Data Science. The inaugural session included a welcome address by Ms. R. Kayalvizhi, II Year M.Sc. Data Science, resource person introduction by Dr. A. Muthamizh Selvan, Head, Department of Informatics, and a felicitation address by Dr. D. Maghesh Kumar, Dean (FCSA). The workshop sessions were conducted by Mr. R. Naresh Giridharan, an experienced visiting faculty of NITs and Anna University and former CEO of InteQsys Pvt. Ltd. The program concluded with a vote of thanks delivered by Ms. S. Janani, I Year M.Sc. Data Science.

The workshop provided comprehensive insights into neural networks, including their theoretical foundations, applications, and practical implementations using Python. The event was coordinated by Dr. A. Muthamizh Selvan, Associate Professor and Head, along with co-coordinators Dr. V. Rajkumar, Dr. M. Manikandan and other faculty and staff members of the Department of Informatics.

The event aligns with the United Nations Sustainable Development Goals (SDGs), specifically SDG 4: Quality Education, by fostering knowledge dissemination, and SDG 9: Industry, Innovation, and Infrastructure, by enhancing skills in cutting-edge technologies like neural networks.

Objectives

1. To provide a solid foundation in neural network principles and applications.
2. To equip students with practical skills in implementing neural networks using Python and TensorFlow.
3. To familiarize students with concepts like overfitting, underfitting, feedforward networks, backpropagation, and CNNs.
4. To enable students to apply neural network models to real-world problems such as image classification.



5. To bridge the gap between theoretical knowledge and industry-relevant practices.

Activities Conducted

1. Introduction to Neural Networks and how they work.
2. Basics of AI in neural networks, human brain-machine learning analogy, and artificial neural network components.
3. Applications of neural networks, learning algorithms, thresholds, epochs, and performance metrics.
4. Feedforward and backpropagation networks, gradient descent, and addressing overfitting and underfitting.
5. Hands-on sessions with Python for matrix handling, TensorFlow, and image classification using CNN.

Outcomes

1. Enhanced understanding of neural networks and their applications.
2. Practical experience in implementing neural networks using Python, Jupyter, and TensorFlow.
3. Developed ability to address challenges such as overfitting and underfitting in machine learning models.
4. Familiarity with image classification techniques using convolutional neural networks (CNNs).
5. Strengthened problem-solving and technical skills aligned with current industry demands.
6. Contributed to achieving SDG 4: Quality Education by offering an inclusive learning opportunity and SDG 9: Industry, Innovation, and Infrastructure by preparing students for innovation in technology.



EVENT BROCHURE



DEPARTMENT OF INFORMATICS

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Dedicated to the University
Empowering youth with 21st Century Skills - INNOVATE, LEARN, TRANSFORM
(Build • Innovate • Transform)

Workshop on **DEEP DIVE TO NEURAL NETWORKS**



05-11-2024 to 09-11-2024



CNGN LAB @ PKC, PMIST



Resource Person

Mr. R. NARESH GIRIDHARAN

Visiting Faculty of
NIT's and Anna University
Former CEO of InteQsys Pvt. Ltd
(1996 to 2012)



Convener

Dr. A. MUTHAMIZH SELVAN

Associate Professor & Head
Department of Informatics



Coordinators

Dr. V. RAJKUMAR, Assistant Professor (SG)

Dr. M. MANIKANDAN, Assistant Professor

Department of Informatics

An event of VISTA (Association of Department of Informatics)

EVENT SCHEDULE



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Workshop on “DEEP DIVE TO NEURAL NETWORKS”

05-11-2024 - 09-11-2024 (5-days)
09.30 am - 04.00 pm @ CNGN Lab (PKC 314)

PROGRAM SCHEDULE

Day 1: 05-11-2024 (Tuesday)

- 10.00 am - Welcome address : **Ms. R. KAYALVIZHI**
II Year M.Sc. Data Science
- 10.10 am - Guest Introduction : **Dr. A. MUTHAMIZH SELVAN**
Head & Associate Professor in Informatics
- 10.15 am - Felicitation Address : **Dr. D. MAGHESH KUMAR**
Dean (FCSA)
- 10.20 am - Overview of the Workshop
: **Mr. R. NARESH GIRIDHARAN**
Visiting Faculty of NITs and Anna University
Former CEO of InteQsys Pvt. Ltd
- 11.00 am - Tea Break
- 11.30 am - Session I : **Introduction to Neural Networks**
- 01.30 pm - Lunch Break
- 02.15 pm - Session II : **How Neural Network Works?**

Day 2: 06-11-2024 (Wednesday)

- 09.30 am - Session III : **Basics of AI in Neural Networks**
- 11.30 am - Tea Break
- 11.45 am - Session IV : **Human Brain and Machine Learning**
- 01.30 pm - Lunch Break
- 02.15 pm - Session V : **Artificial Neural Networks and Components**

Day 3: 07-11-2024 (Thursday)

- 09.30 am - Session VI : **Applications of Neural Networks**
11.30 am - Tea Break
11.45 am - Session VII : **Learning Algorithms and Thresholds**
01.30 pm - Lunch Break
02.15 pm - Session VIII : **Epochs and Performance Metrics**

Day 4: 08-11-2024 (Friday)

- 09.30 am - Session IX : **Feedpass and Backpropagation Networks**
11.30 am - Tea Break
11.45 am - Session X : **Gradient Descent & Brute Force Algorithms**
01.30 pm - Lunch Break
02.15 pm - Session XI : **Overfitting and Underfitting**

Day 5: 09-11-2024 (Saturday)

- 09.30 am - Session XII : **Python Array Matrix and File Handling**
11.30 am - Tea Break
11.45 am - Session VII : **Jupiter and Tensorflow**
01.30 pm - Lunch Break
02.15 pm - Session V : **Image Classification using CNN**
04.00 pm - Tea Break
04.15 pm - Vote of Thanks : **Ms. S. JANANI**
I Year M.Sc. Data Science



PARTICIPANTS ATTENDANCE

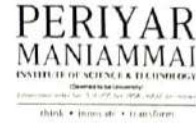
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Deep Dive into Neural Network

S.No	Name of the Student	05-11-2024	06-11-2024	07-11-2024	08-11-2024
1	BAVADARANI M	M.B.	M.B.	M.B.	M.B.
		M.B.	M.B.	M.B.	M.B.
2	SAHANA L	L. Sahan	L. Sahan	L. Sahan	L. Sahan
		L. Sahan	L. Sahan	L. Sahan	L. Sahan
3	MANIMEGALAI T	T.M.	T.M.	T.M.	T.M.
		T.M.	T.M.	T.M.	T.M.
4	VISWA A	A.vij	A.vij	A.vij	A.vij
		A.vij	A.vij	A.vij	A.vij
5	RATHINAKALA K	K. Rathi	K. Rathi	K. Rathi	K. Rathi
		K. Rathi	K. Rathi	K. Rathi	K. Rathi
6	SURUTHI S	S. S.	S. S.	S. S.	S. S.
		S. S.	S. S.	S. S.	S. S.
7	CHARUBALA R	R. Charu	R. Charu	R. Charu	R. Charu
		R. Charu	R. Charu	R. Charu	R. Charu
8	KAYALVIZHI R	R. Kaly	R. Kaly	R. Kaly	R. Kaly
		R. Kaly	R. Kaly	R. Kaly	R. Kaly
9	SURYAGAYATRI M R	A A A	A A A	A A A	A A A
		A A A	A A A	A A A	A A A
10	AJAY M	A A A	M. Ajay	M. Ajay	M. Ajay
		A A A	M. Ajay	M. Ajay	M. Ajay
11	MOHAMED ABUTHAHIR M	M. Abuthahir	M. Abuthahir	M. Abuthahir	M. Abuthahir
		M. Abuthahir	M. Abuthahir	M. Abuthahir	M. Abuthahir
12	DURGESA NANDHINI S	S. Durgesa	S. Durgesa	S. Durgesa	S. Durgesa
		S. Durgesa	S. Durgesa	S. Durgesa	S. Durgesa
13	ABDULLA BATCHA A	A. Batcha	A. Batcha	A. Batcha	A. Batcha
		A. Batcha	A. Batcha	A. Batcha	A. Batcha
14	VISHWA M	M. Vishwa	M. Vishwa	M. Vishwa	M. Vishwa
		M. Vishwa	M. Vishwa	M. Vishwa	M. Vishwa
15	DINESH V	V. Dinesh	V. Dinesh	V. Dinesh	V. Dinesh
		V. Dinesh	V. Dinesh	V. Dinesh	V. Dinesh
16	MAHISHA R	R. Mahisha	R. Mahisha	R. Mahisha	R. Mahisha
		R. Mahisha	R. Mahisha	R. Mahisha	R. Mahisha
17	VIDHIYASRI S	S. Vidhyasri	S. Vidhyasri	S. Vidhyasri	S. Vidhyasri
		S. Vidhyasri	S. Vidhyasri	S. Vidhyasri	S. Vidhyasri
18	MOHAMED SHAFIQ S	S. Shafiq	S. Shafiq	S. Shafiq	S. Shafiq
		S. Shafiq	S. Shafiq	S. Shafiq	S. Shafiq
19	SARULATHA	G. Sarulatha	G. Sarulatha	G. Sarulatha	G. Sarulatha
		G. Sarulatha	G. Sarulatha	G. Sarulatha	G. Sarulatha

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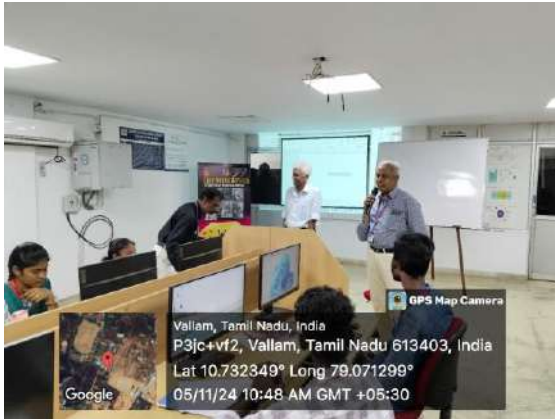
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Deep Dive into Neural Network

S.No	Name of the Student	05-11-2024	06-11-2024	07-11-2024	08-11-2024
1	S. JANANI	S. Janani	S. Janani	S. Janani	S. Janani
2	ELAKKIYA R	R. Elakkiya	R. Elakkiya	R. Elakkiya	R. Elakkiya
3	KAYALVIZHI.G	G. Kayalvizhi	G. Kayalvizhi	G. Kayalvizhi	G. Kayalvizhi
4	OVIYA S	S. Oviya	S. Oviya	S. Oviya	S. Oviya
5	YOGESWARAN.R	R. Yogeswaran	R. Yogeswaran	R. Yogeswaran	R. Yogeswaran
6	SUBHASHINI V	V. Subhashini	V. Subhashini	V. Subhashini	V. Subhashini
7	ATCHAYA.P	P. Atchaya	P. Atchaya	P. Atchaya	P. Atchaya
8	HARINI.S	S. Harini	S. Harini	S. Harini	S. Harini
9	SWATHI S	S. Swathi	S. Swathi	S. Swathi	S. Swathi
10	RENGARAJAN M	M. Rengarajan	M. Rengarajan	M. Rengarajan	M. Rengarajan
11	LOKESWARI L	L. Lokeswari	L. Lokeswari	L. Lokeswari	AAA
12	YAZHINI N	N. Yazhini	N. Yazhini	N. Yazhini	N. Yazhini
13	ARUN	Arun	Arun	Arun	Arun
14	KARANESWERAN G	G. Karaneswaran	G. Karaneswaran	G. Karaneswaran	G. Karaneswaran
15	PRIYANKA.M	M. Priyanka	M. Priyanka	M. Priyanka	AAA
16	MUTHUKRISHNAN D	D. Muthukrishnan	D. Muthukrishnan	D. Muthukrishnan	D. Muthukrishnan
17	SIVAKUMAR S	S. Sivakumar	S. Sivakumar	S. Sivakumar	S. Sivakumar
18	SANJAY S	S. Sanjay	S. Sanjay	S. Sanjay	AAA
19	KARTHIKEYAN R	R. Karthikeyan	R. Karthikeyan	R. Karthikeyan	R. Karthikeyan
20	ABINAYA S	S. Abinaya	S. Abinaya	S. Abinaya	S. Abinaya

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EVENT FOOTAGES



Day 1: 05-11-2024



Day 1: 05-11-2024



Day 1: 05-11-2024



Day 2: 06-11-2024



Day 2: 06-11-2024



Day 3: 07-11-2024

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Day 3: 07-11-2024



Day 4: 08-11-2024

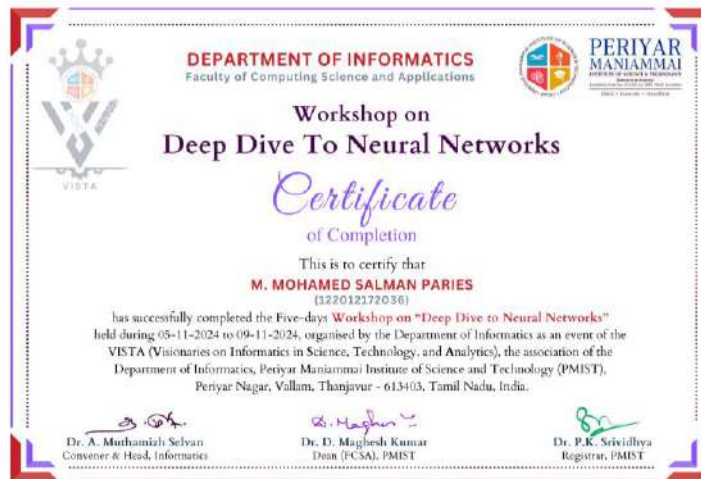


Day 4: 08-11-2024



Day 5: 09-11-2024

SAMPLE CERTIFICATE



[Signature]
Co-coordinator
Dr. V. RAJKUMAR

[Signature]
Co-coordinator
Dr. M. MANIKANDAN

[Signature]
Coordinator and Head
Dr. A. MUTHAMIZH SELVAN

Head of the Department
Department of Informatics
Periyar Maniammai Institute of Science and Technology
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[Signature]