6 DAYS FDP ON

ADVANCED MACHINE LEARNING & ITS APPLICATIONS

Organised By

Department of Computer Science and Engineering

NETAJI SUBHASH ENGINEERING COLLEGE

in association with

Institution's Innovation Council (IIC)

INSTITUTION'S INNOVATION COUNCIL
NETAJI SUBHASH ENGINEERING COLLEGE

TECHNO INDIA GROUP

EMINENT SPEAKERS

Prof. Sushmita Mitra
Professor, ISI, Kolkata

Prof. Probal Chaudhuri
Professor, ISI, Kolkata.

Prof. Kuntal Ghosh
Associate Professor, ISI, Kolkata

Prof. Debapriyo Majumdar
Assistant Professor, ISI, Kolkata

Prof. Saptarshi Ghosh
Associate Professor, IIT Kharagpur

Prof. Anirban Mukhopadhyay
Professor, University of Kalyani

Dr. Brojeshwar Bhowmick
Principal Scientist, TCS

Dr. Manjira Sinha
Scientist, TCS

10- 12th, 15th, 17th, and 18th Jan, 2024

Contact: 9230510321 / 9433506320

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ABOUT THIS FDP

Dept. of Computer Sc. & Engg., NSEC, aims at the professionals from the industry, academia, scientific and research communities to give a thorough understanding of Advanced Machine Learning algorithms and their applications in different areas of real life as well as many case-studies using Python libraries.

Major Focus are:

·To work on important technologies of ML: Supervised, Unsupervised, Semi-supervised Reinforcement Learning & ensemble learning

·Understand the concept of Deep Learning, artificial neural networks, convolution neural networks, and recurrent neural network

·Practical implementation of every technique with real-world applications

·Developing skills in predictive analysis using ML and Deep Learning Algorithms

FOR WHOM

This FDP is designed for teachers and researchers in colleges, universities, and professional institutes teaching computer science and allied subjects. It is also suited for scientists and tech enthusiasts, seeking to learn and adopt Advanced Machine Learning techniques and gain familiarity with essential aspects of carrying out research studies. This FDP is best suited for those with preliminary knowledge of Machine Learning and Python Programming.

TOPICS TO BE COVERED:

DAY 1:

- Emerging Trends in AI & ML, Future Scope
- Statistical Machine Learning
- Data preprocessing and visualization using Python

DAY 2:

- Different types of Machine learning Techniques
- Introduction to Deep Learning
- Implementation of Regression, Classification, Clustering algorithms Using Python Libraries

DAY 3:

- Reinforcement learning in detail and deep reinforcement learning
- RNN, LSTM
- Implementation of Deep Learning algorithms Using Python Libraries

DAY 4:

- Applications of ML and NLP for Legal Data Analytics
- Implementation using Python Libraries

DAY 5:

- Convolution Neural Network,
- Examples using convolution neural networks
- Implementation of Deep Learning algorithms using Python Libraries

DAY 6:

- Generative AI/transformer model
- Evaluation
- Valedictory session

RESOURCE PERSONS

Eminent Speakers from

- Inidan Statistical Institute, Kolkata
- Indian Institute of Technology, KGP
- Kalyani University
- Tata Consultency Services, Kolkata

INTERNAL EXPERTS:

- Dr. Chandra das
- Dr. Shilpi Bose
- Mr. Sumanta das

Last Date of Registration:
January 5, 2024

Link for Registration:
fhttps://shorturl.at/aijoT

Registration Fee:
INR 1500

ABOUT NSEC

Netaji Subhash Engineering College (NSEC), an early-degree-granting engineering institute in Eastern India since 1998, has earned NBA accreditation for five courses since 2005 and NAAC accreditation overall. Over 25 years, NSEC has built a stellar reputation for providing excellent education in engineering and management. The institute offers a range of resources, including a skilled faculty, advanced computing facilities, extensive workshops, a well-stocked Central Library, E-book facilities, and developed laboratories.

ABOUT DEPT OF CSE

This NBA-accredited department admits 180 students and offers both BTech and MTech programs, approved by AICTE. With a vision for global recognition in education and research, the department aims to address the evolving demands of the industry and society in the field of Computer Science and Engineering.

Organizing Committee

Patron:
Mr. Satyam Roy Chowdhury
Chancellor SNU, MD TIG

Advisory Chairs:
Mr. T. K. Ghosh
Executive-Director, TIG

Dr. H. Mandal
Director, NSEC

General Chairs:
Prof. Amal K. Ghosh, Principal
Prof. S. Roy, Dean-Academic Affairs
Prof. Piyali Chatterjee, HOD-CSE

Programme Co-Ordinators & Contact Persons:
Dr. Chandra Das (9433506320)
Dr. Shipi Bose (9230510321)

For More Information: www.nsec.ac.in

Schedule of FDP (10th to 18th January 2024)

Day	Time	Topic	Concerned Speaker
10.1.2023	10:00 AM	Inauguration	
	10:30 AM	**Keynote: From Learning to Deep Learning**	**Prof. Susmita Mita**
	12:00 PM	Tea Break	
	12:30 PM	**Statistical Learning : Some Fundamental Concepts and Techniques**	**Prof. Probal Choudhuri**
	2:00 PM	Lunch Break	
	3:00 PM	**Hands on Python Programming on data preprocessing, data visualization, classification, clustering**	**Mr. Anjan Chowdhuri Mr. Sumanta Das**
	4:30 PM	End of Day1 with Assignments	
11.1.2023	**10:30 AM**	**Ensemble Learning**	**Dr. Chandra Das**
	11:30 PM	Tea Break	
	12:00 PM	**An Introduction to Deep Neural Networks**	**Dr. Kuntal Ghosh**
	2:00 PM	Lunch Break	
	3:00 PM	**Hands on Python Programming**	**Mr. Anjan Chowdhuri Mr. Sumanta Das**
	4:30 PM	End of Day2 with Assignments	
12.1.2023	**10:30 AM**	**Deep learning for text data: Embeddings, Sequence Models and Beyond**	**Dr. Debapriyo Majumdar**
	12:00 PM	Tea Break	
	12:30 PM	**Introduction to Reinforcement Learning**	**Dr. Debapriyo Majumdar**
	2:00 PM	Lunch Break	
	3:00 PM	**Hands on Python Programming**	**Mr. Anjan Chowdhuri Mr. Sumanta Das**
	4:30 PM	End of Day3 with Assignments	
15.1.2023	**11:30 AM**	**Applications of Machine Learning and Natural Language Processing for Legal Data Analytics**	**Dr. Saptarshi Ghosh**
	1:00 PM	**Assessment (Coordinated by Dr. Shilpi Bose & Dr. Chandra Das)**	
	2:00 PM	Lunch Break	
	3:00 PM	**Hands on Python Programming**	**Mr. Anjan Chowdhuri Mr. Sumanta Das**
	4:30 PM	End of Day4	
17.1.2023	**11:00 AM**	**Introduction to Convolution Neural Network**	**Prof. Anirban Mukhopadhyay**
	12:00 PM	Tea Break	
	12:30 PM	**CNN Continuation**	**Prof. Anirban Mukhopadhyay**
	2:00 PM	Lunch Break	
	3:00 PM	**Hands on Python Programming**	**Mr. Anjan Chowdhuri**
	4:30 PM	End of Day5 with Assignments	
18.1.2023	**10:30 AM**	**An introduction to diffusion model**	**Dr. Brojeshwar Bhowmick**
	11:30 PM	Tea Break	
	12:00 PM	**Generative AI**	**Dr. Manjira Sinha**
	1:00 PM	Lunch Break	
	2:00 PM	Evaluation & Feedback	
	3:00 PM	Valedictory Session and Certificate Distribution	
	4:30 PM	End of Day6	

Contact: Dr. Chandra Das (9433506320)/Dr. Shilpi Bose (9230510321)

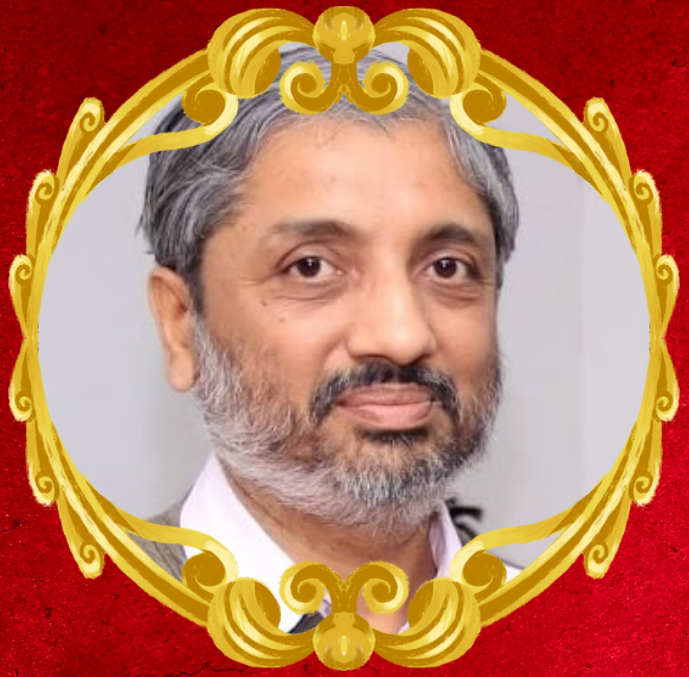
Prof. Sushmita Mitra

Prof. Sushmita Mitra is a full professor at the Machine Intelligence Unit (MIU), Indian Statistical Institute, Kolkata. Dr. Mitra is ranked among the top 2% of scientists worldwide in the domain of Artificial Intelligence and Image Processing.

Former Visiting Professor, University of Alberta, Edmonton, Canada
Former Visiting Professor, Meiji University, Japan
Former Visiting Professor, Aalborg University Esbjerg, Denmark
DAAD Fellow, RWTH, Aachen, Germany (1992-94)

Awarded the prestigious J. C. Bose National Fellowship (2021)
The INAE Chair Professor (2018-2020)
The Fulbright-Nehru Senior Research Fellowship (2018-2020)
The CIMPA-INRIA-UNESCO Fellowship (1996)
The IEEE TNN Outstanding Paper Award (1994)
The University Gold Medal (1988)
The National Talent Search Scholarship from NCERT, India (1978-1983)

Prof. Sushmita Mitra has authored and edited many books and over 150 research publications in referred international journals.



Prof. Probal Chaudhuri

Probal Chaudhuri (born 1963) is an Indian statistician. He is a professor of theoretical statistics and mathematics at the Indian Statistical Institute, Kolkata.
Former Assistant Professor, University of Wisconsin, Madison (1988).

Awarded the Shanti Swarup Bhatnagar Prize for Science and Technology (the highest science award in India, in the mathematical sciences category) in 2005.

Invited speaker in the International Congress of Mathematicians 2010, Hyderabad.

Some of the widely used statistical techniques and concepts that he has invented and developed: local polynomial nonparametric quantile regression, a geometric notion of quantiles for multivariate data, adaptive transformation and re-transformation technique for the construction of affine invariant distribution-free tests and robust estimates from multivariate data and the scale-space approach in function estimation and smoothing.

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