

WORKSHOP  
on  
**ARTIFICIAL INTELLIGENCE**

3<sup>rd</sup>- 4<sup>th</sup> March 2021

**Organised by**  
Dept. of Computer Science & Engineering



**ICFAI University, Tripura**

Kamalghat, Agartala-Simna Road, Pin 799210, Tripura(W), India  
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**Prof. Biplab Halder**

Pro- Vice Chancellor

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**Dr. A.Ranganath**

Registrar

**Advisor**

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Dean, FST

**Convenor**

**Prof. Abhijit Biswas**

HOD, CSE

**Resource Person**

**Mr. Prithwish Sen**

Senior Technical Instructor

Aspirevision Tech Education Pvt Ltd., Kolkata

**Venue**

The ICFAI University, Tripura

P.O. – Kamalghat, Sadar

Agartala, Tripura

Pin: 799210

## **ABOUT THE UNIVERSITY:**

The ICFAI University, Tripura (referred to hereafter as the University) was established in 2004 through an Act of State Legislature (Tripura Act 8 of 2004). The University has been approved by the University Grants Commission, under Section 2(f) of the UGC Act, 1956 and the University is empowered to award degrees under Section 22 of UGC Act, 1956.

## **THE UNIVERSITY IS MEMBER OF THE FOLLOWING:**

- Association of Indian Universities, New Delhi, India.
- Association of Commonwealth Universities, London, UK.
- Institution of Engineers (India).
- Association of Management Development Institutions in South Asia (AMDISA).
- Department of Scientific and Industrial Research, Ministry of Science and Technology, Govt. of India
- Confederation of Indian Industry (CII).
- Vijnana Bharati.
- Academy of Hospital Administration, Govt. of India.

## **ACCREDITATIONS:**

The University has the following accreditations of the regulatory authorities:

- University is NAAC Accredited
- University Grant Commission (UGC)3
- National Council for Teacher Education (NCTE)
- Bar Council of India (BCI)
- Distance Education Bureau (DEB)
- Rehabilitation Council of India (RCI)

The University, with its motto "Meritum Ethicus" strives to develop a new cadre of professionals with high level of competence and deep sense of moral principles and commitment to the code of professional conduct. The University believes in creating and disseminating knowledge in core and frontier areas through innovative educational programs, research, consulting and publishing, and developing a new cadre of citizens with a high level of competence and a deep sense of ethics and commitment to the code of professional conduct.

## **REGISTRATION:**

Total number of Seats-70

Registration is free for ICFAI University Students. For others, an amount of Rs. 500/- will be charged. Seat will be booked on first cum first serve basis.

## **CONTACT DETAILS :**

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## AIM AND OBJECTIVE OF THE WORKSHOP

The key objectives of the workshop are:

1. Explore the opportunities and challenges the Artificial Intelligence, Machine Learning and Deep Learning offer and insights into exciting advancements in technology.
2. The real-world implementation of AI and explore how they have changed our lives.
3. The exciting opportunities AI has been creating in the fields of medicine, banking, and finance, retail, logistics, and advertisements. How technology has been impacting the people working in the respective fields.
4. Showcase the skill sets industries are looking for globally, define the gaps in skill sets and illustrate the knowledge the students should acquire to build exciting applications to solve the real business problems.

## TENTATIVE SCHEDULE

### DAY-1

1. Introduction to AI
  - a. Formal/ Informal Definition
  - b. Machine Learning Overview
    - 1.1.1 Supervised Learning
    - 1.1.2 Unsupervised Learning
    - 1.1.3 Reinforcement Learning
  - c. Applications
    - 1.2.1 Regression Model
    - 1.2.2 Linear Regression
    - 1.2.3 Logistic Regression
    - 1.2.4 Cost Function
    - 1.2.5 Gradient Descent
  - d. Neural Networks
    - 1.6.1 Perceptrons
  - e. Advanced Python Programming Basics with Numpy
2. Getting Started With AI Basics
  - a. Computer Vision : Finding Lanes for self driving car
  - b. Perceptron
    - i. Classification
    - ii. Weights
    - iii. Error function
    - iv. Sigmoid
    - v. Cross entropy
    - vi. GD (Vanilla/ Stochastic)

### DAY-2

1. Deep Neural Networks
  - a. Non-Linear Boundaries
  - b. Architecture
  - c. Feed-Forward Network
  - d. Error Function
  - e. Backpropagation
2. Multiclass-Classification
  - a. Softmax
  - b. Cross entropy
3. MNIST Image recognition
  - a. Dataset
  - b. Test and Train
  - c. Hyperparameters
  - d. Implementation
4. CNN
  - a. CNN & MNIST
  - b. CNN layer
  - c. Pooling
  - d. FCL
  - e. Implementation
5. Classifying Road Symbols
  - a. Fine-tuning
  - b. Fit-generator
  - c. Implementation
6. Chat-bot with NLP, Deep Learning and Tkinter

## ORGANIZING COMMITTEE

Prof. Saroj Kumar Nanda , Assistant Professor,CSE.	Member
Dr. Partha Sarkar , Assistant Professor, CSE.	Member
Dr. Dushyant Dutta , Assistant Professor, CSE.	Member
Prof. Debjani Bhowmik , Assistant Professor, CSE.	Member
Prof. Durgabati Podder , Assistant Professor, CSE.	Member
Prof. Sayantan Singha Roy , Assistant Professor, CSE	Member
Prof. Paromita Goswami , Assistant Professor, CSE.	Member
Prof. Sunirmal Sen, Assistant Professor, CSE.	Member
Prof. Soumen Ghosh, Assistant Professor, CSE.	Member
Prof. Swapan Das, Assistant Professor, CSE.	Member

## PROFILE OF THE RESOURCE PERSON

### Mr. PRITHWISH SEN

Senior Technical Instructor  
Aspirevision Tech Education Pvt Ltd.,Kolkata

### PROFESSIONAL SKILLS

Python, C, HTML, CSS, Javascript, XML, Mongo DB, SQL tools

- Worked as a IOT, ML, AI and Embedded Systems Instructor.
  - Worked as a CV, IOT, ML, AI and Embedded Systems Developer in Govt. and Non-Govt. Organizations.
  - Participated in several seminars in embedded systems.
- Done Several Projects on Arduino based Systems (vehicle tracking System, home security, etc.)



### Projects

- Image stylization
- Object detection in Adverse Weather Condition
- Rendering Scenes for Stimulating Adverse Weather Condition
- Multilingual Optical Character Recognition
- Instant Cool (Beverage Dispenser)
- Making the Use of Thermo-Electric Coolant and adding payment gateway for unmanned dispense of the cold fluid.
- A Lucy a Smart Home Automation System based on Raspberry Pi
- Ecommerce Application