

# Flagship Certificate Program in AI & MACHINE LEARNING FOR MODERN HEALTHCARE

18 May- 21 June 2026 | Online Mode



- Total 60 Hours (45 Hrs Theory+ 15 Hrs Practical)
- Certification by Centre for Advanced Training & Research (Govt., ISO-IAF registered) & **Lead by IIT Faculty**
- Technologies & Tools Covered: Python | NumPy | Pandas | Matplotlib | Seaborn | Machine Learning & Deep Learning Libraries

## Why This Course is Career Game-Changer

- Industry-aligned AI & ML curriculum with healthcare focus
- Hands-on Python, ML & Deep Learning training (90 Hours)
- Real-world healthcare datasets & projects
- Well-defined modules (Programming → ML/DL → Healthcare AI → Projects)
- Healthcare specialization (very high-demand niche)
- Mini project + certification + career guidance & Research

## Career Opportunities

- ✓ Healthcare Data Analyst
- ✓ AI / ML Engineer (Healthcare Domain)
- ✓ Medical Data Scientist
- ✓ Clinical AI Research Assistant
- ✓ PhD / Research Project Support
- ✓ AI Developer in HealthTech startups

## Who Can Join

- Final Year UG & PG Students (CS, IT, AI, Data Science, Bioinformatics)
- Research Scholars in AI & Healthcare
- Working Professionals in IT & Healthcare
- Faculty Members & PhD Aspirants

## Resource Person

**Dr. Haider Banka**

Associate Professor,  
Department of CS&E,  
Indian Institute of Technology (ISM)  
Dhanbad

## Organized & Certified by

**Centre for Advanced Training and Research**  
(Govt. Registered & ISO-IAF Certified)  
Sector 1, Vikas Nagar, Lucknow U.P. India



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## Participant Benefits & Deliverables

ISO–IAF Accredited Certificate  
Live session recordings (lifetime access) & lecture PPTs  
Live coding, hands-on labs & healthcare-based projects  
Software, tools & resource download links  
100% Practical Learning Approach  
Live Coding Sessions (No prior AI/ML experience required)  
Hands-on Workshops & Labs  
Mini Project & Final Presentation  
Exposure to Real-World Healthcare AI Applications  
Suitable for NAAC / NBA / Academic Skill Development Records

## Limited Seats Early Bird Offer

**India** (Early Bird–Before 31 March 2026)

• **INR 8000**

(Bulk registration discounts applicable.)

International Participants: **USD 225**

## Schedule and Time

Classes: Saturday & Sunday

Time: 7:00 PM (In India)

**International Timings:**

Saudi Arabia: 4:30 PM

UAE / Oman: 5:30 PM

UK: 1:30 PM

USA (ET): 8:30 AM

Build Intelligent AI Solutions for Modern Healthcare

**Register Now**



[www.catredu.com](http://www.catredu.com)



[director@catredu.com](mailto:director@catredu.com)



+91-8887565470

# PROGRAM MODULES

## Program Modules – Part I: Core Foundations

### Module 1: Programming & Data Foundations

#### Week 1

**Focus:** Strong coding, data handling & visualization skills

- Introduction to Algorithms
- Problem-solving approaches
- Basics of Complexity Theory
- Algorithm design techniques
- Sample problems & analysis
- Programming Fundamentals
- Overview of C / Python / Java
- Syntax & control structures
- Functions, loops, arrays, strings
- Debugging & best coding practices
- Basic Data Structures
- Lists, stacks, queues, dictionaries
- Python Programming Fundamentals
- Working with files & modules
- Data Manipulation using NumPy
- Data Analysis using Pandas
- Data Visualization
- Matplotlib & Seaborn
- Statistical computing basics

```
statuses = {}
async for data in resp_iter:
    status = Status(
        status_id=data.id, name=
    )
    statuses[status.name] = status
return statuses
```

### Module 2: Machine Learning & Deep Learning

#### Week 2

**Focus:** Core ML & DL concepts with hands-on implementation

- Introduction to Machine Learning
- ML workflow & real-world examples
- Supervised Learning
- Regression & Classification
- Model Evaluation & Validation
- Performance metrics
- Feature selection & engineering
- Unsupervised Learning
- Clustering techniques
- Dimensionality Reduction (PCA, etc.)
- Ensemble Learning
- Bagging, Boosting, Random Forest
- Introduction to Deep Learning
- Neural Network fundamentals
- Convolutional Neural Networks (CNN)
- Recurrent Neural Networks (RNN) & LSTM
- Generative Adversarial Networks (GANs)
- Transfer Learning & Fine-tuning
- Hands-on ML & DL model implementation

# PROGRAM MODULES

## Program Modules – Part II: Healthcare AI & Projects

### Module 3: AI & Machine Learning in Healthcare

#### Week 3

#### Focus: Applying AI & ML to real healthcare problems

- Foundations of AI
- AI applications in healthcare
- Healthcare Data Types & Sources
- Challenges in medical data
- Electronic Health Records (EHRs)
- Medical imaging data overview
- Data preprocessing for healthcare
- Feature engineering for medical datasets
- Ethics, Data Privacy & Regulations
- ML for Healthcare
- Disease risk prediction models
- Evaluation metrics for healthcare ML
- Case studies in medical diagnosis
- Healthcare ML project walkthrough



### Module 4: Practicals & Project Work

#### Week 4

#### Focus: Hands-on experience & real-world exposure

- Medical Image Analysis using CNN
- X-ray & MRI classification
- Image segmentation & object detection
- Transfer learning in medical imaging
- Synthetic medical image generation
- GAN applications
- Mini Project Presentation
- Real-world Healthcare AI Applications
- Certification & Career Guidance

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