



Online | 6 Weeks

Anudaksh

Training cum Internship Program In Machine Learning and Edge AI

By IIT Guwahati, RFRF & The IoT Academy

ABOUT

IIT GUWAHATI



Indian Institute of Technology Guwahati, the sixth member of the IIT fraternity, was established in 1994. The academic programme of IIT Guwahati commenced in 1995. At present the Institute has eleven departments and three inter-disciplinary academic centres covering all the major engineering, science and humanities disciplines, offering BTech, BDes, MA, MDes, MTech, MSc and PhD programmes. Within a short period of time, IIT Guwahati has been able to build up world class infrastructure and a reputation for itself.

ABOUT

Research for Resurgence Foundation (RFRF)

RFRF has been planned & designed through aspiration of true-researchers, academicians and policy makers. This foresighted movement has solution oriented approach for ultimate goals of achieving human– ecosystem balance.

RFRF has signed MoU with 128+ higher education institutes and universities



ABOUT

The IoT Academy



OUR MISSION

The IoT Academy insists on academia and industrial collaboration. "The IoT Academy" can help you to complete your projects, POC and provide needed support in training to acquire skills. We emphasize hands-on training and experiments. This provides the learner an edge to prepare better for job and interviews. For training purposes we have developed experimental boards in-house. Our collaborations with various industries help us to keep our knowledge up to date that translates into our training courses and to develop edge over other training Institutes.

OUR VISION

At The IoT Academy We believe that the future is about Unified and Converged technologies as reflected in our vision statement. Every aspect of life will eventually lead in bringing forth a unified world of immense possibilities.



The IoT Academy is our Training & Development unit which was set in December 2017 to enable us to prepare Skilled engineers as per Industrial Demand. The IoT Academy has made a niche name for itself and has provided training to more than 1000+ trainees so far from various discipline, sectors, places both on campus and at our institute.

The IoT Academy is a reputed ed-tech platform that offers training and courses in emerging technologies such as the Internet of Things, Embedded Systems, Machine Learning, and Edge AI. We aim to focus on cutting-edge technical education and enterprises that would contribute new contributions to society.



ABOUT Anudaksh

ANUDAKSH
 (Anusandhan, Niyojaniyata,
 Udyamita, and Dakshta),
 an Initiative to
 upskill Students, Faculty Members,
 and Working Professionals

OUR MISSION

- Train 50 Lakhs students in 05 years in various domains, such as VLSI, Computer Science, Data Science, IoT, Bio-informatics, Artificial Intelligence, Machine Learning, Blockchain, Digital Marketing etc. in minimum 500 universities nationwide
- Upskilling towards employability by Gyan Setu
- Skill development towards entrepreneurship by Kaarya Setu
- Boosting research base in India by Shodh Setu



Anudaksh

Program Benefits

- ✓ **Certificate of Completion from IIT Guwahati, RFRF and The IoT Academy.**
- ✓ **Internship Certificate From UniConverge Technologies.**
- ✓ **Live Instructor-led Classes.**
- ✓ **Exposure to Industrial Based Project.**
- ✓ **Doubt Clearing Sessions.**
- ✓ **Career Guidance and Placement Support.**
- ✓ **Intensive Learning Experience.**
- ✓ **Industrial Visit.**

Skill India → **Self-Reliance**

PROGRAM CURRICULUM: LEARNING PATH

Master Industry-relevant skills for new age **Machine Learning and Edge AI** through the most relevant curriculum designed by IIT Guwahati, RFRF & The IoT Academy leaders from the industry.

Introduction to Machine Learning

Module

01

Introduction to Machine Learning, Regression, Supervised Classification, Dimensionality Reduction, Unsupervised Learning, Association Rules Mining, Recommendation System, Time-series Forecasting

Regression

Module

02

Introduction to Regression • Linear Regression • Evaluation Metrics in Regression Models • Logistic Regression

Supervised Classification

Module

03

Why Use Classification? • Application of Classification Algorithms • Introduction to Classification • Types of Classification Algorithms • Classification: Decision Tree • Classification: Random Forest • ML in Banking & Finance - Benefits • Classification: SVM • Classification: KNN • Classification: Naïve Bayes • Evaluating Classification Models • Model Optimization Techniques • Model Boosting Techniques

Unsupervised Learning

Module

04

What is Unsupervised Learning? • Application of Unsupervised Learning • Introduction to Clustering • Types of Clustering • Partitioning Methods: K-means, DBSCAN, Spectral • Hierarchical Methods: Hierarchical

Dimension Reduction

Module

05

PCA • Factor Analysis • LDA

Association Rules Mining

Module

06

What are Association Rules? . Association Rule Parameters . A-priori Algorithm . Market Basket Analysis

PROGRAM CURRICULUM: LEARNING PATH

Recommendation System

Module

07

What is Recommendation System? • Need for a Recommendation System • Recommendation System Use Cases • Applications of Recommendation System • Types of Recommendation Systems • Collaborative Filtering • Content Based Filtering • Matrix Factorization • Pros and Cons of Collaborative Filtering • Content Based filtering • Hybrid Recommender System

Time-series Forecasting

Module

08

Introduction to forecasting data . Properties of Time Series data . Features of Time Series data . Markov Processes - Overview and Terminologies . Naive, Average and Moving Average Forecasting . Exponentiol Smoothing . ARIMA Approach

Introduction to Deep Learning

Module

09

What is Deep Learning • Curse of Dimensionality • Machine Learning vs. Deep Learning • Use Cases of Deep Learning • Human Brain vs. Neural Network • What is Perceptron? • Learning Rate • Epoch • Batch Size

Edge AI

Module

10

Edge vs Cloud Computing • Motivation behind Edge AI • Edge AI applications • Implementation process of Algorithms • Inferences deployment on Edge

2 WEEKS PROJECTS

The projects and assignments will help you accumulate real-world experience in different industries.



Automotive Industry



Education Industry



Telecommunication



Entertainment Industry



Healthcare Industry



Manufacturing Segment



Smart Grid

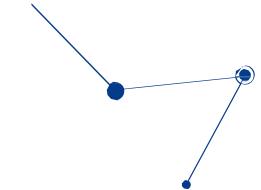


Production industry



Robotics





2 WEEKS PROJECTS

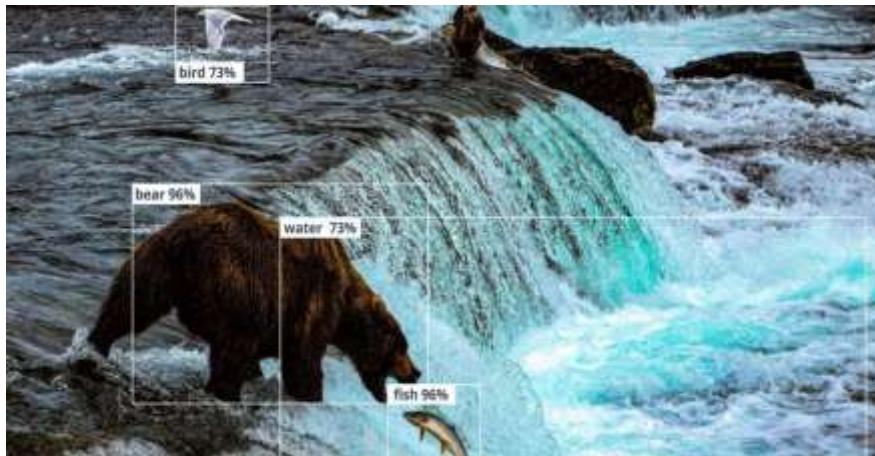
Industry projects will be a part of your Certification Program in **Machine Learning and Edge AI** to consolidate your learning. Industry projects will ensure you have the real-world experience to start your career in **Machine Learning & Edge AI**

- 10+ Essential Tools
- Designed by Industry Experts
- Get Real-world Experience

Auto Image Captioning

Automatic image captioning is widely used by search engines to retrieve and show relevant search results to the users. For example - to categorize personal multimedia collections, for automatic product tagging in online catalogs, and other areas of business and researches. Use CNN and LSTM to create a model that can automatically add captions to the image.

Tools you will be using: OpenCV, Tensorflow 2 / Keras, Numpy, Pandas, Matplotlib



Twitter Sentiment Analysis using Tweepy

Analyzing the tweets helps us in understanding the thoughts and sentiments of people over any popular topic. It helps us to understand what people are thinking about the trend. Here, as a part of this project, you will use Tweepy, Textblob, nltk, and other NLP libraries to analyze the sentiments from the Trending Twitter's tags.

Tools you will be using: Tweepy, Textblob, NLTK



Beer Consumption Prediction

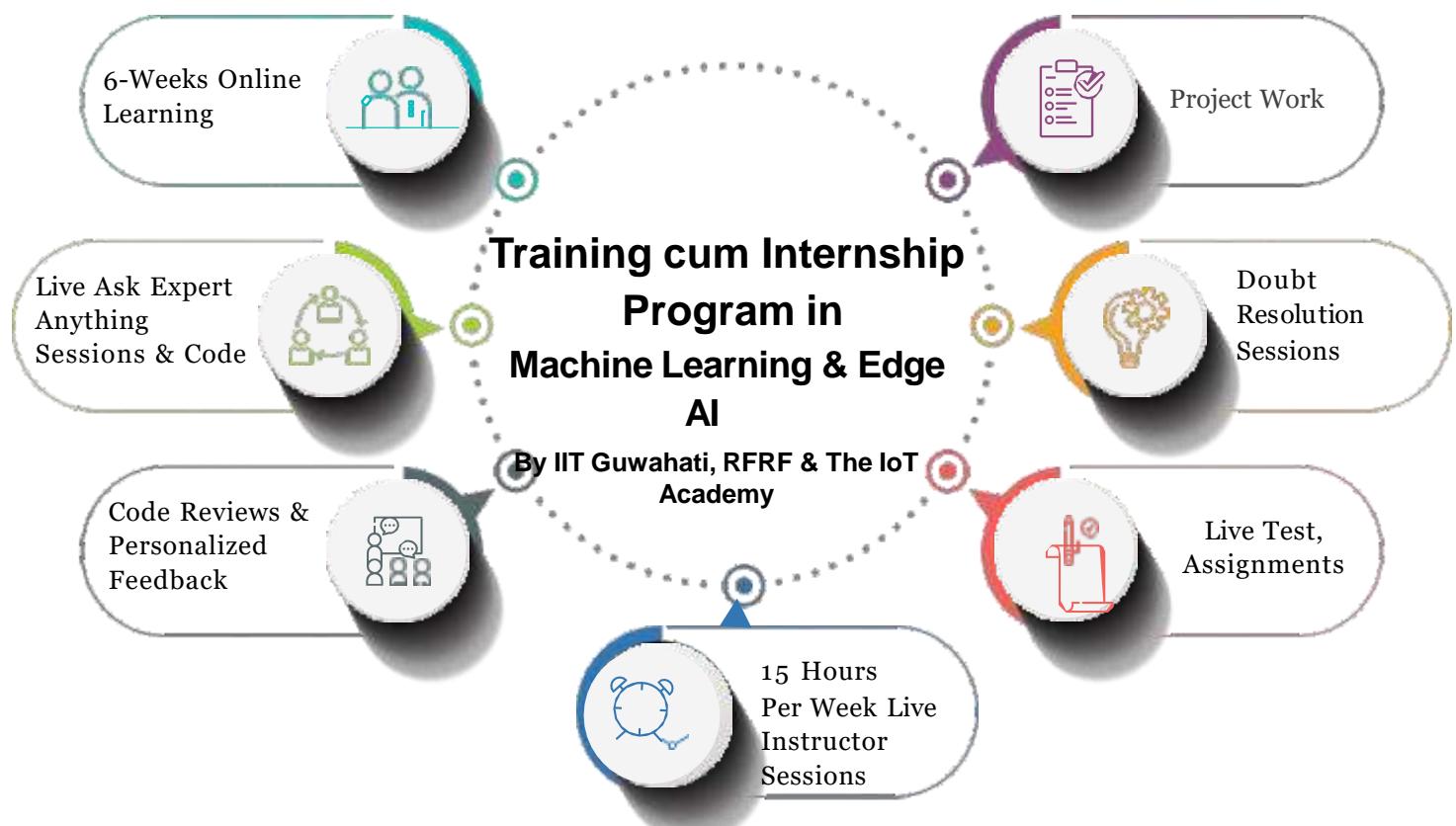
Beer is the most consumed drink in the world. Not without reason, it is perfect for almost every situation, from happy hour to large wedding parties. You will be given a data sample collected in São Paulo, Brazil. Use this to predict the quantity of beer consumption based on the features that contain climate conditions of a given day.

Tools you will be using: Pandas, Seaborn, SKLearn



PROGRAM PEDAGOGY

Learn from one of the best faculty in India through live online sessions. While Academic Professors will help you learn **Machine Learning & Edge AI** industry experts will impart practical knowledge of **Machine Learning & Edge AI** techniques through real-world projects.



Benefits for Trainees

- ✓ Curriculum designed by leading industry experts and faculties
- ✓ Certification by IIT Guwahati IIT Guwahati
- ✓ Guest Lectures by IIT Faculties
- ✓ Completely Hands-on based Learning mentored by Industry Veterans
- ✓ Industry Oriented skill sets
- ✓ Industry Grade Capstone Projects
- ✓ Job assistance/guidance through Industry Partners
- ✓ Workshops on Entrepreneurship and Business Ecosystem



TOP RECRUITERS



TRAINING & INTERNSHIP CERTIFICATION

Upon successfully completing this program, you'll earn **Training cum internship program in Machine Learning & Edge AI** that is co-branded by **IIT Guwahati, RFRF & The IoT Academy** as the Knowledge Partner. This certificate will testify to your skills as an expert in **Machine Learning & Edge AI**

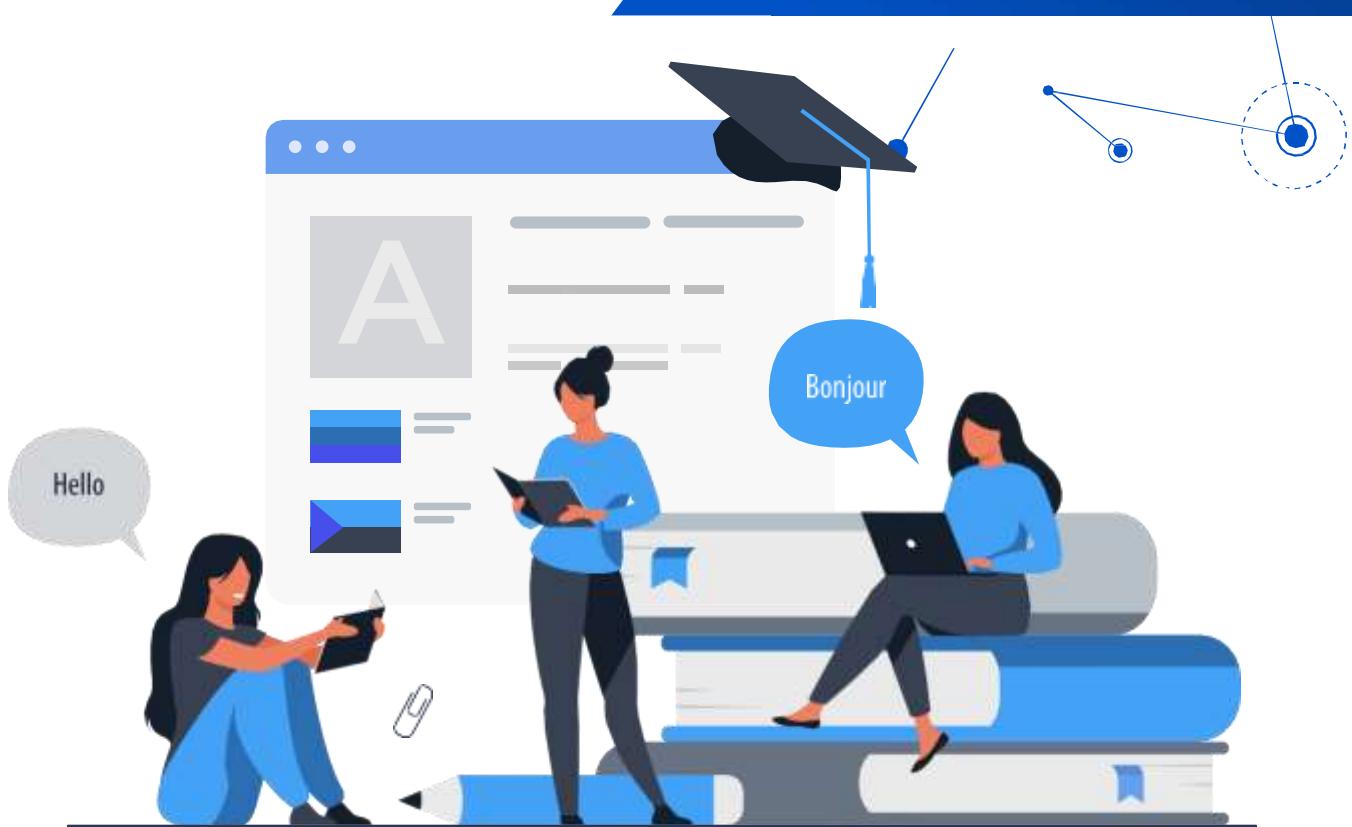
Training Certificate



Internship Certificate



CONTACT DETAILS



Program Information:

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