

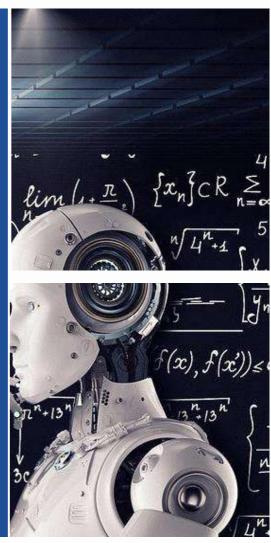


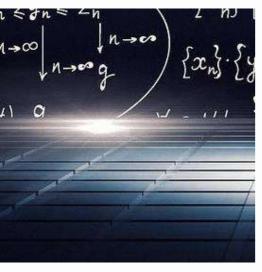
6 Months (120 Hrs)

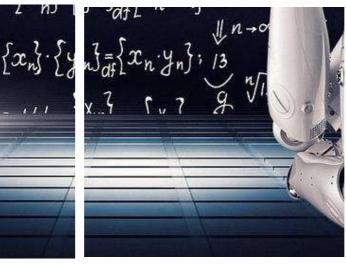


### **ABOUT** THE PROGRAM

Most of the technological advancements in the recent times you see around have an element of Data Science, Machine Learning in it. This 6 month Applied Data Science, Machine Learning & Edge AI course is uniquely designed by E&ICT Academy, IIT Guwahati, and industry leaders, to make you master exactly what the Data Science, Machine Learning jobs market demands. The objective of our state-ofthe-art Applied Data Science, Machine Learning & Edge AI Certification Course is to perfectly prepare you for the Data Science, Machine Learning & AI job roles you aspire for. You will learn real-world Data Science, Machine Learning, Deep Learning, and AI skills through multiple business projects, transforming you into a sought after New Age DS, ML & AI Specialist.



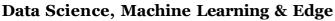






# WHY IS DS, ML & Edge AI IMPORTANT?





**AI** is redefining our way of life, enabling machines to do what people once thought only humans could do. It is also revolutionizing the way we do business. The global ML market is projected to be \$30.6B by 2024, growing annually by 43%.





**Virtual** Personal Assistants



Search Engine Result Refining



**Social** Media Services



Online Fraud Detection



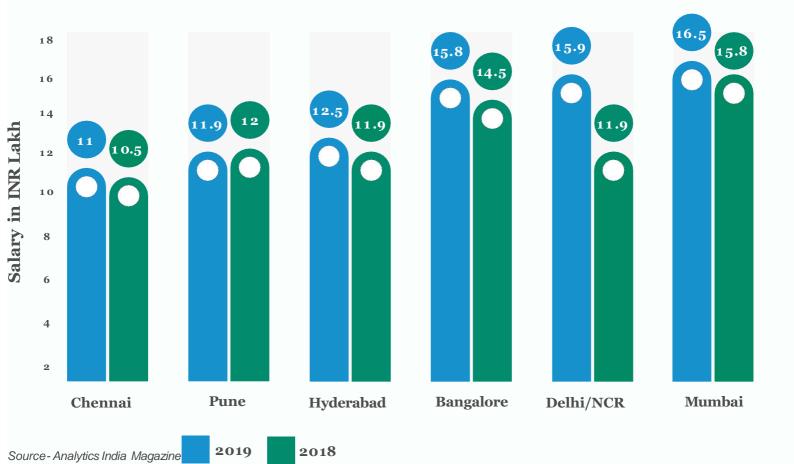
Email Spam and **Malware Filtering** 

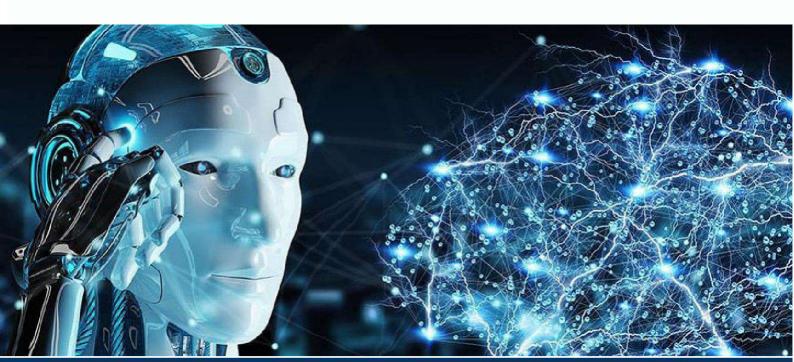


**Product** Recommendations

# **CURRENT TRENDS** IN DS,ML-AI JOB MARKET

As per Gartner, **Data Science Machine Learning and AI** will create 23 Lakhs job openings by 2020-21 The average annual salary of an DS, ML-AI Engineer in India is Freshers: Between ₹ 6,99,807-8,91,326 Experienced: Between ₹ 35,00,000 - 50,00,000 (Salary per annum).





### **ABOUT THE**

**IIT GUWAHATI** 





E&ICT ACADEMY, IIT GUWAHATI

Electronics and ICT Academy aims to provide specialized training to the faculties of Engineering, Arts,
Commerce, Science colleges and
Polytechnics institutes by developing short term training programmes on fundamental and advanced topics in IT, Electronics & Communication,
Product Design, Manufacturing. In addition, the Academy conducts specialized customized training programmes and research promotion workshops for corporate sector & educational institutions.



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 THE PARTNERSHIP

**Advanced Certification In Applied Data Science, Machine Learning & Edge AI** is offered jointly by The IoT Academy and E&ICT Academy, IIT Guwahati to prepare the future workforce in Machine Learning and IoT







**Prof. Gauray Trivedi** 

**Principal Investigator** E&ICT Academy, IIT Guwahati Associate Professor, IIT Guwahati



He is actively participating many Govt of India's initiative e.g. Atmanirbhar Bharat. One of the major participation is in Semiconductor Production Initiative in India

He has also setup an aquaponics project in Guwahati.

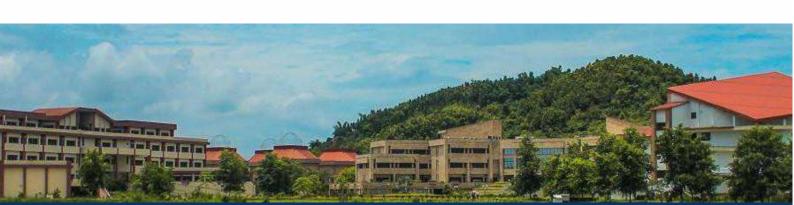


Kaushlendra Singh Sisodia

Director, UniConverge Technologies



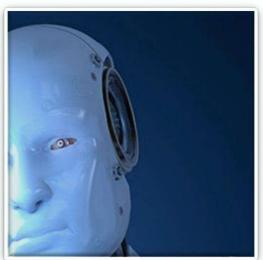
Director at UniConverge Technologies Pvt Ltd working on (IoT, AI/ML, Industry4.0, 4G/5G). Partner with E&ICT Academy, IIT Kanpur for IoT skill development. Employed at Ericsson, Sweden for 6.5 Years and shifted to Bangalore to build and support HSPA team. Complete end to end knowledge of WCDMA 3G system.



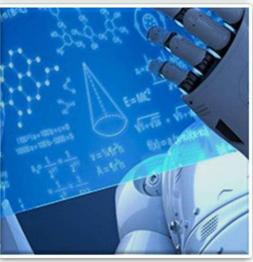
# PROGRAM HIGHLIGHTS

This 6-month program is uniquely designed by E&ICT Academy, IIT Guwahati and industry leaders to help you learn exactly what the job market demands.















Hands-on program and Industry-Grade Capstone Projects



Industry-relevant skills for new age DS & ML



Designed by leading academic and industry experts along with IIT-Guwahati faculty

### **PROGRAM** BENEFITS



#### **Practical Knowledge**

Live instructor-led online classes by industry experts.



#### Curriculum

Curriculum designed by professors from IITG and industry experts.



#### **Support and Guidance**

Lifetime access to our Learning Management System and Program Support



#### Career Guidance and 100% Placement Guaranteed

Complete access to a plethora of our Career Assistance and Placement Services



#### **Personalised Attention**

Dedicated technical and nontechnical teams to resolve all your doubts



#### **Doubt Clearing Sessions**

24x7 subject matter expert support for your technical/nontechnical doubts



#### **Certificate/Credentials**

Certificate of Completion from E&ICT Academy, Guwahati.



# Immersive Learning Experience

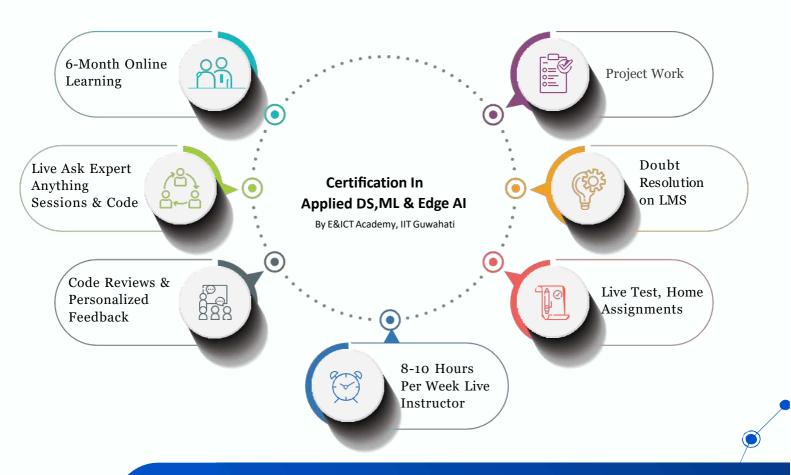
A unique learning ecosystem to give you an offline-like immersive experience



# PROGRAM PEDAGOGY

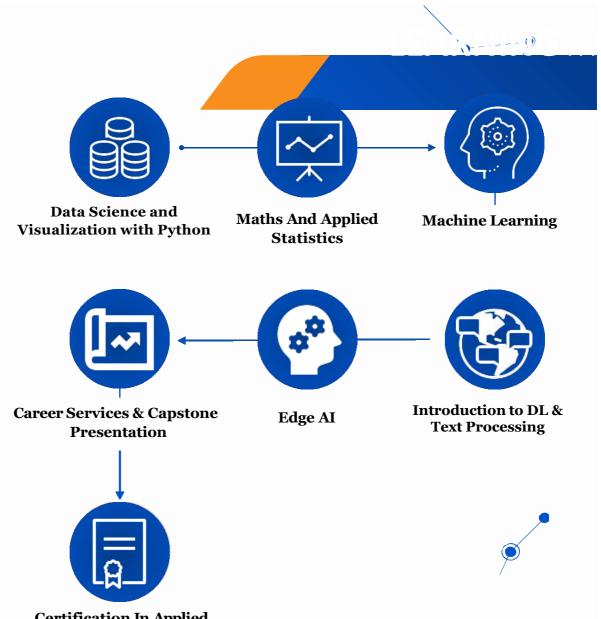


Learn from one of the best faculty in India through live online sessions. While Academic Professors will help you learn data science concepts, industry experts will impart practical knowledge of data science, machine learning, deep learning, techniques through real-world projects.



# TOOLS, LANGUAGES & FRAMEWORKS

	‡‡+ a b l e a v	bokeh	matpletlib	IP[y]:
jupyter Jupyter	MySQL	NLTK	NumPy	learn
pandas	O PyTorch	TensorFlow 2.0	OpenCV	TensorFlow Lite



Certification In Applied
Data Science, Machine Learning &
Edge AI by E&ICT Academy IIT Guwahati



### PROGRAM CURRICULUM: LEARNING PATH

Master Industry-relevant skills for new age Data Science, Machine Learning & Edge AI through the most relevant curriculum designed by E&ICT Academy, IIT Guwahati and leaders from the industry.

# DATA SCIENCE AND VISUALIZATION WITH PYTHON

Module

01

Python Basics, Python NumPy & Pandas, R Language Essentials, EDA, SQL For Data Analytics, Data Visualization, Tableau, Visual Storytelling using Power BI

#### MATHS AND APPLIED STATISTICS

Module

02

Maths for ML, Statistical Foundations, Probability, Inferential Statistics,

#### **MACHINE LEARNING**

Module

03

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

# INTRODUCTION TO DL & TEXT PROCESSING

Module

04

Introduction to Deep Learning, Tensor flow 2.0 with Tensor Board, Text Processing Methods

**EDGE AI** 

Module

05

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

# CAREER SERVICES & CAPSTONE PRESENTATION

Module

06

Resume Building, Interview preparation workshop, Capstone Project

# **CAPSTONE** & LIVE SESSION PROJECTS

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



**Automotive Industry** 



**Education Industry** 



**Banking Sector** 



**Entertainment Industry** 



Healthcare Industry



**Manufacturing Segment** 



**Retail Industry** 



Production industry



**Finance Sector** 



### **CAPSTONE** PROJECT



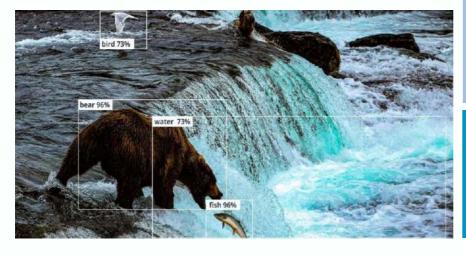
Industry projects will be a part of your Certification Program in **DS**, **Machine Learning** and **Edge AI** to consolidate your learning. Industry projects will ensure you have the real-world experience to start your career in DS,ML.

- 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



# **Real-Time Age, Emotion and Gender Detection using CNN**

Use CNN and OpenCV to create a model which would detect the person's age, emotion, and age in real-time.

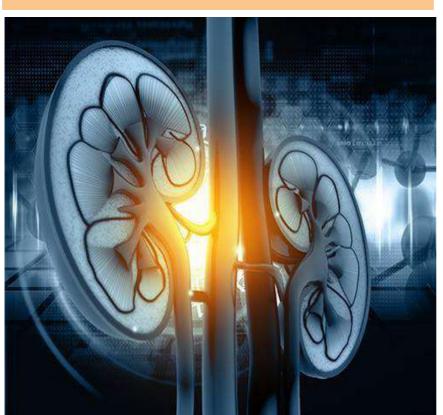
**Tools you will be using:** OpenCV, Tensor flow 2/ Keras, Numpy, Pandas, Matplotlib

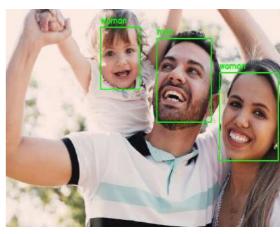


#### **Telecom Churn Prediction**

A telecom company wants you to analyze its data, to keep its customers. You will be provided with the 'Telecom Churn' dataset. Use it to create a model to predict which customer will switch to other telecom service providers, based on the relevant customer data.

**Tools you will be using:** Pandas, Numpy,, Seaborn, Matplotlib, SKLearn





#### **Resort Menu Prediction**

Emerald Oyster is affected by the high cost of meals at multiple restaurants within the resort. To resolve this issue, they need a new menu and choices based on the economical condition of the customer. Your task will be to identify the economic class of the customer based on the data collected so that the board can resolve this with proper remodeling.

**Tools you will be using:** Pandas, SKLearn, Matplotlib, Seaborn, Numpy



# **Chronic Kidney Disease Prediction**

Chronic kidney disease (CKD) is a covert disease. Accurate prediction of CKD progression overtime is necessary for reducing its costs and mortality rates. The dataset is taken over a 2-month period in India. It has 400 rows with 26 features like red blood cells, pedal edema, sugar, etc. Use this to classify whether a patient has chronic kidney disease.

Tools you will be using: Pandas, SKLearn



#### **Gnar Automobiles**

Gnar Automobiles engages in the distribution and sale of automobiles and light commercial vehicles. The owner of the Gnar Automobiles deals with a number of distributors across countries in different origins. As every origin sends cars with various specifications. The owner wants to determine the origin of the cars based on the specifications of the cars to further increase business opportunities

Tools you will be using: Pandas, Matplotlib, Numpy, mlxtend

# **Big Mart - Customer Segmentation**

The data scientists at Big Mart have collected 2013 sales data of 1559 products across 10 stores in different cities. Big Mart CEO wants to understand the customer demographics and customer retention (Customer who can converge easily) so that the marketing team can market their products and services by conducting various strategies accordingly.

Tools you will be using: Pandas, scipy, Numpy



#### **Credit Score Prediction**

Sydney based Caltech bank plans a new loan scheme for its customers and wants to analyze its customer data to find out how the customer's earning is associated with their credit score. Use clustering methods to find the high credit score clusters of customers. It will summarize the existing loan scheme and help Caltech bank to decide about the new loan scheme.

Tools you will be using: Pandas, scipy, Numpy





#### **Forecast Air Passenger Traffic**

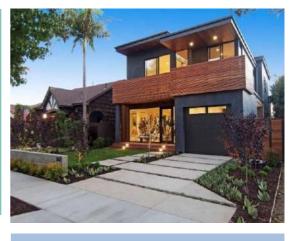
An Airline called Star Air has the data of its passengers across months. The data is classified in date/time and the passengers travelling per month. Build a model to forecast the demand (passenger traffic) in Airplanes. You will learn to use Pandas, Scipy, Numpy with hands-on experience of other tools, features and libraries.

**Tools you will be using:** Pandas, scipy, Numpy

#### **Housing Price Prediction**

The dataset is collected from the 1990 California census containing data of one row per census group. The dataset has various demographics and details captured. Based on this data, we have to create a model using Pandas, Scipy, Numpy that can determine the housing price of the house based on the details provided.

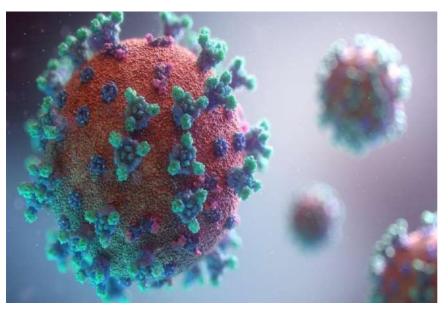
Tools you will be using: Pandas, scipy, Numpy



#### **Smart Surveillance System**

A shopping centre needs a surveillance system to detect persons and other items. As a machine learning engineer, you will create a model to detect objects using a pre-trained MaskRCNN model. You will be using OpenCV, Tensorflow 2, Keras, Numpy, Pandas, Matplotlib and others.

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



#### Traffic Sign Classification using CNN in Tensorflow 2.0

Detection and recognition of traffic signs are crucial for the development of self-driving cars, which have a direct impact on driving behaviors. You will learn to build a CNN model using OpenCV, TensorFlow 2, Keras, Numpy, Pandas, Matplotlib to detect and classify the traffic signals for new self-driving cars.

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



#### **COVID Analysis in India**

COVID-19 pandemic is the greatest global humanitarian challenge the world has faced since World War II. The pandemic has spread widely, and the number of cases is rising daily. The government is working to slow down its spread. Web Scrape the data from the official government website and findvarious insights by comparing the trend of COVID in India as compared to the world.

**Tools you will be using:** Prophet, ARIMA, Pandas, SKLearn, pyplot, Seaborn, Matplotlib, beautifulsoup



#### **Analyze & Visualize Employee Attrition**

Employee retention is one of the biggest metrics that a company should have in mind when thinking of growth. Employee attrition is caused when the total strength of the company is greatly reduced as more employees leave the company than expected. Uncover the factors that lead to employee attrition and explore the reasons as to why people are leaving the organization and predict whether an employee will leave the organization or not by creating a Web App using Streamlit that takes inputs from user's online.

**Tools you will be using:** Sklearn, PyCaret, Streamlit, SHAP, Pandas-Profiling

# **Analyze & Visualize Video Games Sales**

SRS Ltd. is a Korean and video game company headquartered in Seoul. You as a Data Scientist is required to analyze the trend in Global Sales according to the Genres on the Video Games Sales Dataset from 1980 & visualize the change in Net Sales of different publishers from the year 2005 to 2015

Tools you will be using: Plotly Express, Streamlit





#### **Identify fraudulent credit card transactions**

Credit card fraud happens when a fraudster or a thief steals your credit card or the information from that card to make unauthorized purchases in your name or take out cash advances using your account. Credit card companies such as Citibank, HSBC, and American Express need to recognize fraudulent credit card transactions so that customers are not charged for items that they did not purchase.

**Tools you will be using:** Sklearn, PyCaret, Streamlit, ELI<sub>5</sub>, Pandas-Profiling

# 100% Placement Guaranteed



#### Live Career-Oriented Webinars

Live webinar sessions that include curriculum and career services walkthrough to help learners understand their learning objective and expectations of hiringmanagers.



#### Leadership Skill Development Sessions

Recurring training sessions with experts to help learners develop Interpersonal & Leadership Skills.



#### 1-on-1 Career Mentoring Sessions

One-on-one Career Mentoring sessions on how to develop the right skills and attitude to secure a dream job.





# **Exhaustive Interview Preparation**

Expert tips, sample interview questions, mock interviews with constructive feedback from industry experts to gain hands-on experience of technical rounds, HR round, andmore.



#### Job Search Assistance & Job Feeds

Access to multiple job portals to help learners navigate through thousands of jobs including global remotejobs.



#### Profile Building Assistance

A dedicated Career Coach will provide expert tips on how to create an attractive, relevant resume and LinkedInprole.

# TOP RECRUITERS





























Deloitte.

## **OUR** ALUMNI WORK AT























Deloitte.

# WHAT'S IN IT FOR YOU



After completing the program, you will receive a Certification In **Applied Data Science**, **Machine Learning & Edge AI** 

which will be awarded jointly by E&ICT Academy, IIT Guwahati. Candidates will be able to explore a wide range of A jobs available globally, like:

#### **Entry-Level:**

- Data Analyst
- Associate Machine Learning Engineer
- Research Analyst





#### **Mid Level:**

- Machine Learning Engineer
- Data Scientist
- Machine Learning Research Scientist

#### **Senior Level:**

- Sr. Data Scientist
- Machine Learning Research Scientist
- Deep Learning Expert



# PROGRAM FACULTY, INDUSTRY EXPERTS

The best of academics and industry experts to give you a robust learning experience. We aim to give you a complete exposure to real-time and relevant industry applications of the concepts learnt.





**Prof. Sumit Kalra** 

#### **Department of CSE**

Indian Institute of Technology Jodhpur

**Profile** 



Mr. Kaushlendra Sisodia

#### **Industry Expert/Program Advisor**

Director at Uniconverge Technologies, IIT Kanpur Alumnus

**Profile** 



Mr. Sanjay Aggarwal

#### **Data Science with ML Expert**

The IoT Academy, IMS BHU Alumni

**Profile** 



Mr. Jitesh Kumar

#### **Embedded Systems and IoT**

Senior IoT Engineer and Trainer, The IoT Academy

**Profile** 

### **PROGRAM** INFLUENCER

The best of academics and industry experts to give you a robust learning experience. We aim to give you a complete exposure to real-time and relevant industry applications of the concepts learnt.



Mr. Vivek Kumar

20+ Yrs Exp, Entrepreneur, Investor, Cofounder at WeITGlobal AB, Sweden and Redi□ex AB, Sweden, IIT-Kanpur Alumnus



Dr. Ashwani Singh

18+ Yrs Exp, Schneider, Ph.D. France Engineering, Innovation Management, IIoT, Industry 4.0



Mr. Rajiv Bajpai

20+ Yrs Exp, Apple (USA), ex-Broadcom, ex-Samsung, IIT-Kanpur Alumnus



Mr. Manbhawan Prasad

20+ Yrs Exp, Product Manager at Microsoft, Ireland EMCC Certi□ed Coach, IIT-Guwahati



**Mr. Anil Pandey** 

20+ Yrs Exp, Director of R&D - Protocol Stack Development at Rohde & Schwarz MTC, UK, IIT-Kanpur Alumnus



Mr. Ashish Shrivastava

16+ Yrs Exp, Senior System Designer, Algorithm and System, LTE/5G Baseband at Ericsson, Sweden



Mr. Tej Pratap Pandey

20+ Yrs Exp,COO at Mobiotics, IIT-Kanpur Alumnus



Mr. Deepak Singhal

20+ Yrs Exp, Enterprise Architect Director at Capgemini, Speaker on Cloud technologies

# **SUCCESS** STORIES

23

The best of academics and industry experts to give you a robust learning experience. We aim to give you a complete exposure to real-time and relevant industry applications of the concepts learnt.



Sunita Devi Arya Placed at



Obtaining information from these industry insiders allows you to decipher the game's hidden codes, which will ensure your victory. The IoT Academy exceeded my expectations and assisted me in obtaining my dream job at IKEA.



Ravi Teja Placed at



Every part of the training was wellorganized and provided just what I required. The professors were excellent, the mentors were helpful, and the course was well-designed to meet all of the student's needs.



Srividhya HK Placed at



The IoT Academy assisted me in correctly channelling my energy, revising what I had learnt in college, and learning new things! Also, the industry training, which assisted me in getting a job at a reputed company.



G Shravan Kumar Reddy Placed at



I wanted to improve my knowledge of Al and Machine Learning so that I could keep up with the newest trends and technology. IoT Academy is the name I've chosen for myself. The IoT Academy support staff and mentors were great help. "Highly recommended for people interested in learning about Al and Machine Learning."

### **CERTIFICATIONS**

Upon successfully completing this program, you'll earn **Certification In Applied Data Science**, **Machine Learning & Edge AI that is** co-branded by **E&ICT Academy**, **IIT Guwahati** as the Knowledge Partner.

This certificate will testify to your skills as an expert in **Applied Data Science**, **Machine Learning & Edge AI** 

# Sample Certificate





## PROGRAM ELIGIBILITY CRITERIA

Those wishing to enrol in the Certification In Applied Data Science, Machine Learning & Edge AIBy E&ICT Academy IIT Guwahati will be required to apply for admission

#### For admission to the Certification In Applied Data Science, Machine Learning & Edge AI, candidates should have:

- Any Undergraduate Degree holder like BCA, B.Tech, B.E, B.Com etc with an average of 50% or higher marks.
- Basic understanding of programming concepts and mathematics. For candidates who do
  not know Python, we offer a free pre-program tutorial.
- Working Professionals with 2+ years of experience are preferred to apply for this program.



### **APPLICATION PROCESS**

The application process consists of four simple steps. An offer of admission will be made to the selected candidates and accepted by the candidates upon payment of the admission fee.

1



#### **Online Application Form**

Apply by filling a simple online application form You will be required to provide personal, educational, and professional details. Once we receive your details, our Admission Head will reach out to take your candidature further.

2



#### **Interview Process**

Go through a screening call with the Admission Director's office who will gauge your passion and eligibility for the program.

3



#### **Scholarship & Offer Letter**

Apply for the scholarship (not mandatory) and take the test. An offer letter will be rolled out to the selected candidates

4



#### **Admission & Batch Allotment**

Complete the admission and make a quick block payment formality with assistance from our loan partners, you will be given course credentials and your learning journey will begin!



### **Program Information:**

**Certification In Applied Data Science, Machine Learning & Edge AI** 

By E&ICT Academy, IIT Guwahati







eict.iitg.ac.in



theiotacademy.co

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