

# Foundational Certification in Data Science



**In collaboration with**  
**Electronics & ICT Academy IIT Guwahati**

Offering live interactive sessions covering the latest Data Science topics, including Python, PowerBI, Linux, Pandas, Anacondas and many more

# Table of Contents



- About the Program
- Key Features of the Program
- About E & ICT Academy IIT Guwahati
- Our Course Speaker
- About SkillVertex
- Our Mentor
- Eligibility Criteria
- Demand for Full Stack Development
- Career Outlook
- Learning Path Details
- Projects
- Tools Covered
- Placement Assistance
- Testimonials
- Contact Us

# About the Program



Our Foundational Certification in Data Science in association with E & ICT Academy IIT Guwahati is your gateway to a future in the dynamic world of data science. Designed to shape the data scientists of tomorrow, our comprehensive program offers a blend of cutting-edge theory and hands-on practical experience. Students will master data science concepts, gain proficiency with the latest tools, and embark on a transformative journey toward industry readiness. Our commitment extends beyond the classroom, as we provide placement support and opportunities to work on captivating real-world projects.

## Key Features of the program

Program completion certificate from E&ICT Academy IIT Guwahati.

Live interactive sessions covering the latest Data Science topics

Improve your skills with more than 10 practical assignments in a variety of industries.

A total of 5 capstone projects.

A total of 80+ hours of sessions

Skillvertex's career assistance to help you drive the attention of top hiring companies.

# About E & ICT Academy IIT Guwahati



As an initiative of the Ministry of Electronics & Information Technology (MeitY), the Academy was set up at IIT Guwahati under the scheme of "Financial Assistance for Setting up Electronics and ICT Academies". On 2015 the project started at IIT Guwahati and the Academy was inaugurated by Hon'ble Prime Minister Shri Narendra Modi on 19 January, 2016. The objective of the Academy is to provide skill training to the Faculty Members (Engineering & Non-engineering) in the area of recent trends in engineering & ICT application. The Academy is designing specialized modules for imparting quality training for enhancing employability and capacity building in the area of Electronics & ICT. In the past 7 years, the Academy has successfully conducted 350+ Faculty Development Programme through conventional classroom teaching and NKN virtual classroom mode in different institutes/Universities of North Eastern States in particular and a few in other states of India. Till date, the Academy has successfully trained 18000+ Faculty members. The Academy has also signed MoUs with Institutes/Universities for hosting the programs and for conducting hands-on sessions the Academy collaborated with Industries as Training/Industry Partners. The Academy is also offering online Advance Certification Courses in the area of Data Science, Artificial Intelligence & Machine Learning, Big Data, Cloud Computing, Full Stack, VLSI Design, and Management related courses and trained 2500+ graduates and working professionals. The Academy has also delivered training to Government officials from Assam Police and Indian Navy on Cyber Security & Forensics and Data Analytics & Sciences training 120+ officials.

# Our Course Speaker



**Dr. Gaurav Trivedi**  
**Principal Investigator**  
**E&ICT Academy IIT Guwahati.**



Dr. Gaurav Trivedi is an Associate Professor in the Department of Electronics and Electrical Engineering, IIT Guwahati and is also the Principal Investigator of the Electronics & ICT Academy which is an initiative of Ministry of Electronics and Information Technology (MeitY), Govt. of India which was inaugurated by our honorable Prime Minister Shri Narendra Modi on 19th January, 2016 with a vision to create skilled human resource in the domain of Electronics and Information Technology to support various government initiatives like "Digital India" and "Make in India". He has completed his Masters from IIT Bombay in the field of Microelectronics and his PhD from IIT Bombay in Electrical Engineering in the field of VLSI CAD. He has over 7 Book and Book Chapter Publications, more than 50 Journal Articles, 86 Conference Proceedings, has been a Visiting faculty/ Expert in over 10 reputed institutes both national and international and has supervised more than 20 PhD students, 55 MTech students and over 90 B.Tech students. Under his supervision, E&ICT Academy IIT Guwahati has completed total 300+ skill development courses. He is an active member of various reputed academic activities in various organizations. He is also a member of IEEE and a reviewer of both National and International Journals and Conferences and is also a Core group member of Centre for Advanced Computing, and High-Performance Computing and FPGA Lab at IIT Guwahati and a Core group member of AUSHADHI, an Open-Source Drug Discovery Platform, at IIT Guwahati.

# About SkillVertex



SkillVertex is an edtech organization that aims to provide upskilling and training to students as well as working professionals by delivering a diverse range of programs in accordance with their needs and future aspirations. With respect to the emerging industrial requirements and technologies, also assist in career development, additional counselling guidance and mentorship in the respective domains. This program is being delivered in partnership with Skillvertex by the Electronics & ICT Academy IIT Guwahati. Focusing on applied learning to have an instantaneous career impact, Skillvertex's immersive learning model, which has won multiple awards and is offered through live virtual classes.



# Our Mentor



**Satya Pattnaik**  
**Microsoft**  
**Data & Applied Scientist**  
**5+ Years of experience**



Welcome, Data Enthusiasts! I'm Satya Pattnaik, a Data & Applied Scientist at Microsoft, specializing in machine learning with 5+ years of domain experience. Join me on an illuminating journey into the realms of data science, where we unravel its intricacies and pave the way for your future success!

**Akash Maurya**  
**Delloite**  
**Data Science Consultant**  
**5+ Years of experience**



Hello, aspiring data enthusiasts! I'm Akash Maurya, a Data Science Consultant at Deloitte with over 5 years of hands-on experience. As a fervent Data Science Trainer, I'm dedicated to sharing my insights and expertise to empower the next generation of professionals.



# Admission Process



The application process and eligibility criteria for the program

## Application Process

Candidates can apply in three easy steps for this program:

### 1. Submit an application

Tell us about yourself and what drives you for enrolling in this program.

### 2. Application Review

Candidates will be shortlisted by an admission counselor according to their applications.

### 3. Admission

The program can be joined by selected candidates upon payment of the admission fee and an Admission test may be conducted for the same.

## Talk to an Admissions Counselor

We have a team of dedicated admissions counselors to help guide you in the application process and related matters. They are available to:

- Address questions related to the application
- Help you better understand the program and answer your questions



# Eligibility Criteria



This program is designed to teach Data Science for beginners as well as professionals. It covers everything starting from the very basics, including Python. So a coding background is not compulsory (although knowing a coding language like java, python or/c++ is an added bonus)

## Demand for Data Science

The field of data science is experiencing a promising future with a growing demand for professionals with expertise in this domain. Businesses and organizations are recognizing the value of data-driven insights and solutions, which has led to a surge in the adoption of data science for addressing their data-related challenges.

**Jobs:** Over 100K+ job opportunities available upon mastering the Data Science

**Average Annual Salary:** 7 LPA – 18 LPA

# Career Outlook



After learning data science, you can explore a wide range of job roles across various industries. Data science is a versatile field that offers numerous career opportunities. Here are some common job roles you can pursue:

**Data Scientist:** Data scientists are responsible for collecting, cleaning, analyzing, and interpreting data to provide actionable insights. They build predictive models and use machine learning to solve complex problems.

**Average Salary: 10 – 20 LPA**

**Data Analyst:** Data analysts focus on collecting and analyzing data to support business decisions. They create reports, dashboards, and visualizations to present data-driven findings.

**Average Salary: 6 –10 LPA**

**Data Engineer:** Data engineers build and maintain the data infrastructure necessary for data analysis. They design databases, ETL (Extract, Transform, Load) processes, and data pipelines.

**Average Salary: 10 – 15 LPA**

**Quantitative Analyst:** Quantitative Analysts work in finance and use data to develop mathematical models for pricing and risk management. They are commonly employed in investment firms.

**Average Salary: 8 –12 LPA**

# Learning Path Details



## Module 1:

### Introduction to Data Science

(3 Hours)

What is data science?

What is ML?

What is AI?

The data science process

Data types and sources

Overview of data science

## Module 2:

### Python for Data Science

(10 Hours)

Python basics

Python libraries for data science

Data cleaning and preprocessing

Exploratory Data Analysis (EDA)

Assignment 2: Python Basics

## Module 3:

### Data Analysis with Python

(6.5 Hours)

Statistical data analysis

Data visualization with Matplotlib and

Seaborn

Time-series analysis

Text data analysis

Assignment 3: Data Analysis on real-life data

## Module 4:

### Machine Learning

(7 Hours)

Introduction to machine learning

Supervised learning algorithms

Unsupervised learning algorithms

Assignment 3: Machine Learning

## Module 5:

### Introduction to Time Series Modelling

(10 Hours)

Time Series Components

Stationarity and Differencing

Autoregressive Integrated Moving Average (ARIMA)

Models



## Module 6:

### Deep Learning

(10 Hours)

Introduction to deep learning and neural networks

Convolutional Neural Networks (CNNs)

Recurrent Neural Networks (RNNs)

Long Short-Term Memory (LSTM) network

Transfer learning and fine-tuning

Assignment 4: Deep Learning (ANN, CNN, & RNN)



## Module 7:

### Natural Language Processing

(10 Hours)

NLP concepts and techniques:

Text preprocessing and tokenization:

Sentiment analysis and text classification:

Named Entity Recognition (NER) and topic modeling:

Assignment 5: NLP - Creating an NLP model:

## Module 8:

### Dashboarding and Storytelling with Power BI (7.5 Hours)

Introduction to Power BI

Data visualization best practices

Creating interactive dashboards

Storytelling with data

Assignment 6: PowerBI - Creating a dashboard



## Module 9:

### Deployment using AWS Cloud, GitHub, and Streamlit Module

(8.5 Hours)

AWS

Cloud

GitHub,

Streamlit

# Capstone Projects



Social Media Sentiment Analysis for Brand Monitoring

Healthcare Patient Outcome Prediction

Financial Market Prediction and Analysis

Crime Prediction and Analysis Using Machine Learning

Automated Real Estate Valuation Model

## Tools Covered



**MySQL**



**Python**



**AWS**



**Power BI**



**Linux**



**GitHub**



**Jupyter**



**Anaconda**



**Visual Studio**



**Streamlit**



**Numpy**



**Matplotlib**



**Seaborn**



**Scipy**



**Pandas**

# Placement Assistance



1. Resume Building Session

2. Soft Skill Session

3. 1:1 Mock Interview by Industry Expert

4. 1:1 Career Guidance

5. Interview in our Partnered Companies

## Job Opportunities

Data Scientist

Data Analyst

Data Engineer

Big Data Engineer

Quantitative Analyst

Deep Learning Engineer

Research Scientist

Statistician



# Testimonials



**Abhinav Pandey**  
Data Analyst



**Namrata Kasina**  
Junior Data Analyst



**Priyansh Dwivedi**  
Research Analyst



**Sonu Kumar**  
Machine Learning  
Engineer

## CONTACT US



**+91-361-2583182**  
**+91-7086502139**



**eictacad@iitg.ac.in**  
**eictacad@gmail.com**



**9606012806**



**support@skillvertex.com**