Learnbay

Executive Program in
Data Science and AI

For Managers and Tech Leaders

In collaboration with

E&ICT Academy
IIT Guwahati

100% Online & Hybrid Learning Mode

Curriculum inclusive of GenAI for Managers & Leaders

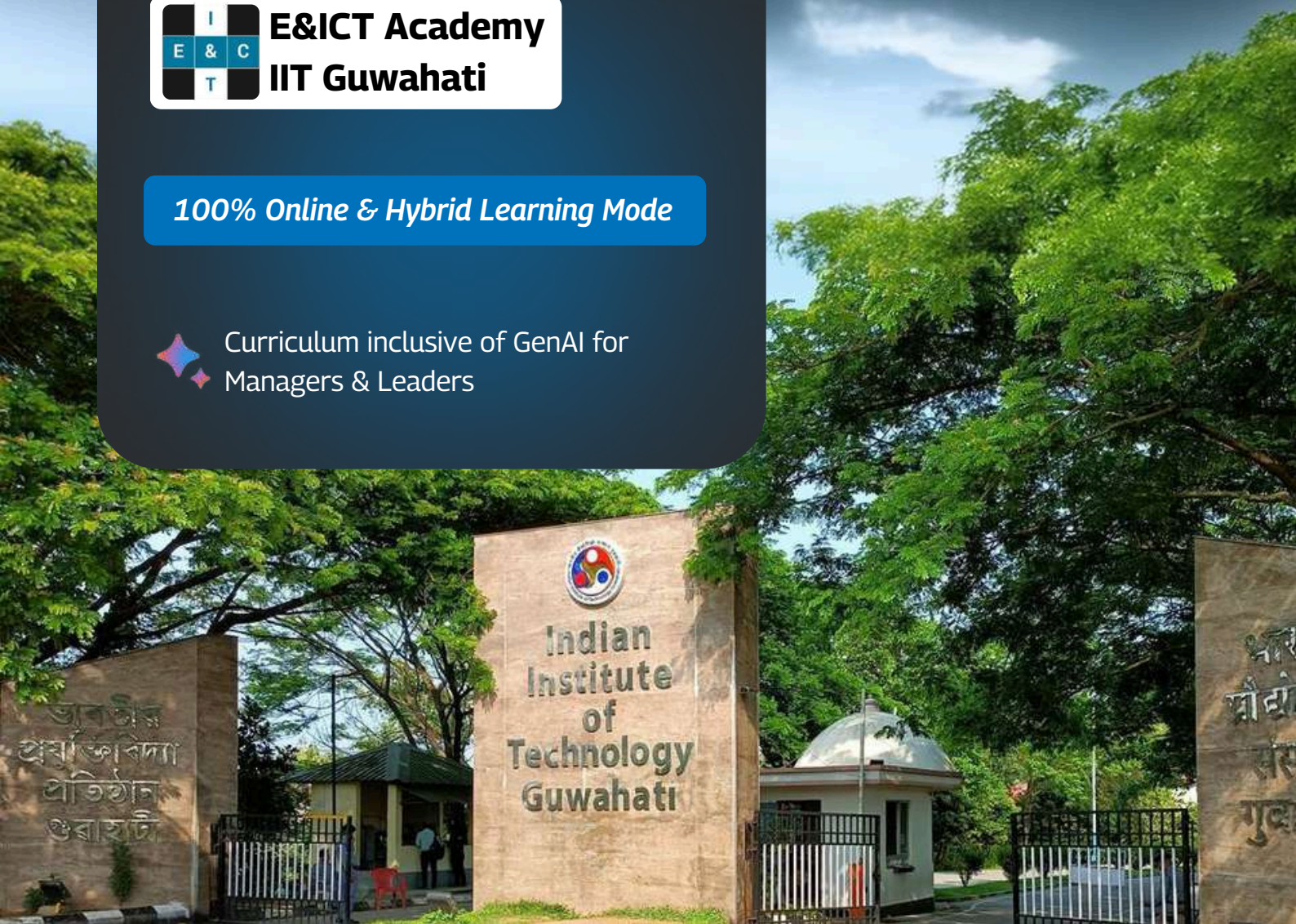
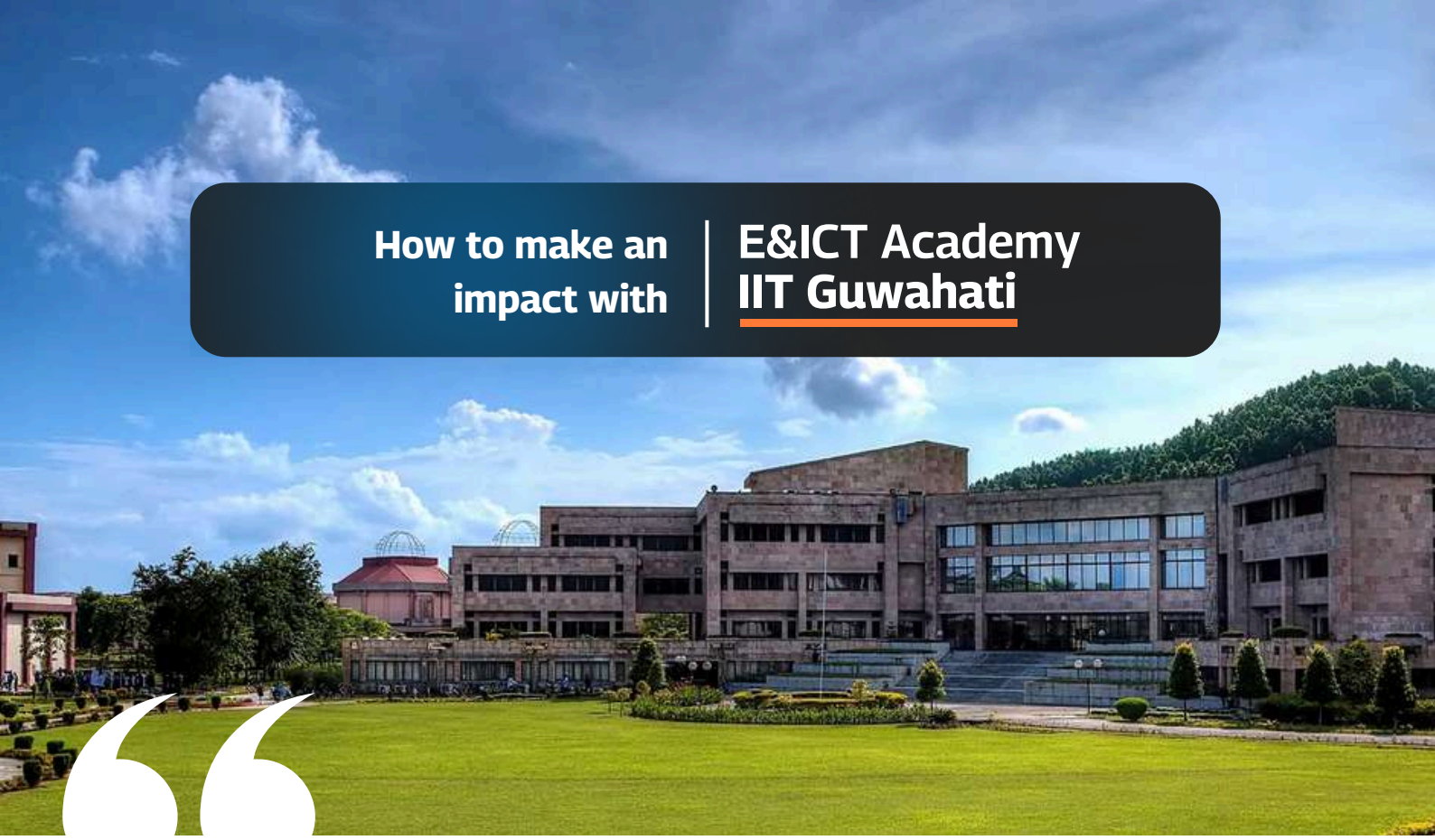


Table Of Content



How to make an impact with | E&ICT Academy IIT Guwahati

For managers and senior leaders, this program is a golden opportunity to advance their careers and lead in one of the fastest-growing sector

Practical Project Experience
Gain experience of managing analytics project from scratch

Certification from IIT Guwahati
Earn a completion certificate after from E&ICT, IIT Guwahati

Immersive Experience
2-day classroom learning at IIT Guwahati.

Domain Electives
Work on Live projects from multiple domains

Program **Summary**

Program Eligibility

Working professionals having minimum 4 years of exp.

Training Mode

100% Live Online & Hybrid (Online + Classroom)

Program Faculty

Industry Experts and IIT Professors

Program Duration

11 Months Program Weekday and Weekend Batch

Payment Options

No cost EMI, Interest free loan

Certification

Certification from E&ICT, IIT Guwahati

Get Add-on Certificate from :

IBM Microsoft

Exclusive

Practical Project Experience

Lead a Team
Manage a data science and AI real-time project

Project Life Cycle
Learn to oversee the entire project.

Practical Skills
Gain hands-on experience in project management.

Industry Knowledge
Develop expertise in your specific domain.

Important Note: You will be assigned a team of 4-5 members to lead and complete a data science project. This will give you real experience in managing an AI project

About **Course**

Our program offers specialized content that is more advanced and directly applicable to high-level decision-making and strategic roles.

At Learnbay, we offer more than just education; we provide a pathway to career advancement and personal development, to enhance your expertise, lead with confidence, and drive innovation in your field.

Our Commitment

"We are dedicated to delivering accessible and industry-relevant education that empowers India's workforce to grow and succeed."

We offer flexible learning options, allowing you to choose between 100% online or hybrid modes, which combine online and in-person sessions.

Furthermore, our comprehensive career support services include interview preparation, resume building, and job placement assistance, all designed to help you smoothly transition into leadership roles in data science and AI.

100%
Assured Interview

350+
Hiring Partners

7+
Centers Across India

15k+
Managers Upskilled

Leadership Growth Scale

82%

of managers are likely to adopt GenAI by 2025, to

- enhance efficiency,
- automating tasks,
- improving decision-making for better project outcomes.

***By integrating GenAI into our programs**, we ensure that our learners are well-prepared to lead and innovate in their respective fields.

Learnbay

Who is this program for?

A unique program for
Managers and Leaders!

www.learnbay.co

77956 87988

Mid to **Senior** Level Professionals with **4+ Years of Experience**

This program is perfect for Business Analysts, Data Scientist, Consultant, Finance Professional, Entrepreneurs, IT Professionals

Project Manager **Team Lead (IT/Non-IT)**

Important Note: This program is not for freshers, fresh grads, students.

Program **Outcome**: What's in it for you?

Integrate AI in Projects

Seamlessly integrate AI and data analytics solutions into your existing business operations, enhancing efficiency and driving better outcomes.

Drive Strategic Innovation with AI

Leverage AI for informed decision-making and fostering innovation across key sectors like BFSI, Supply Chain, and Retail, ensuring a competitive edge.

Lead Data Science Projects

Effectively manage and deliver data analytics projects, ensuring they align with business goals and deliver impactful results.

Learnbay

Why choose Learnbay?

A unique program for Managers and Leaders!

www.learnbay.co

77956 87988

1. Training **Mode**

You can choose from two flexible training modes according to suit your needs and preferences:

New

100% Live online classes

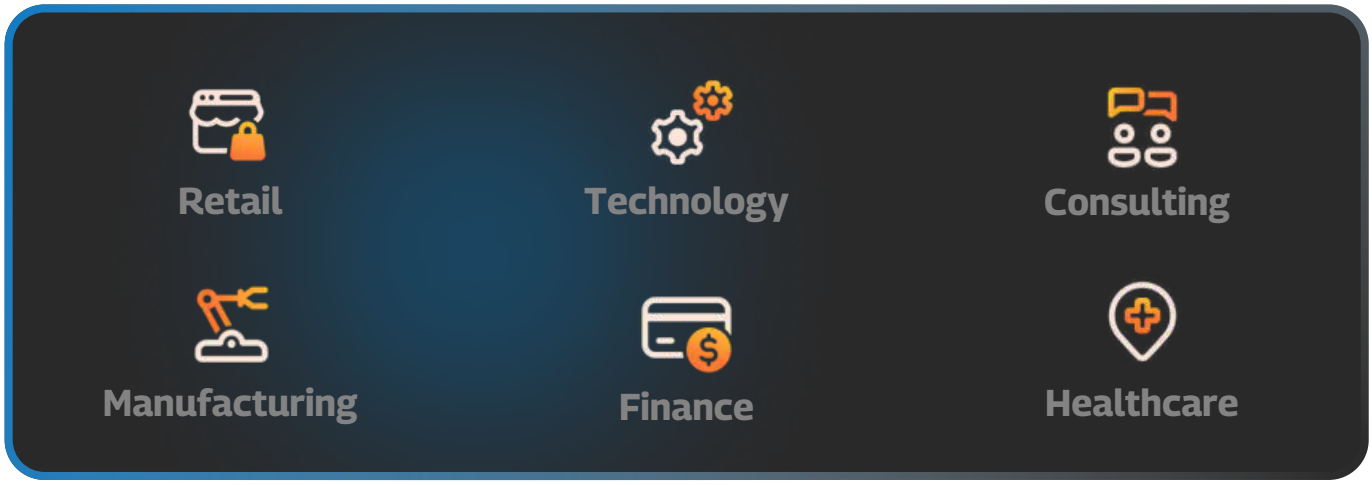
Hybrid classes

***Important Note:** Hybrid mode allows learners to benefit from both flexible, remote learning and direct, face-to-face interaction.
Offline classes are available in **Pune, Mumbai, Delhi, Chennai, Hyderabad, Kolkata, Bangalore**.

2. Domain **Electives**

Make your previous experience count

Select your domain electives and engage in live projects across various industries to gain hands-on experience. This practical approach will deepen your understanding of real-world challenges and enhance your expertise.



EXCLUSIVE

3. **Practical** Project Experience

Practical Skills

Gain hands-on experience in project management.

Project Life Cycle

Learn to oversee the entire project.

Lead a Team

Manage a data science and AI real-time project

Industry Knowledge

Develop expertise in your specific domain.

Important Note: You will be assigned a team of 4-5 members to lead and complete a data science project. This will give you real experience in managing an AI project

4. **1:1 Doubt** Clearing Session

Select your domain electives and engage in live projects across various industries to gain hands-on experience. This practical approach will deepen your understanding of real-world challenges and enhance your expertise.

Important Note: Schedule your sessions from 10 AM - 6 PM (Mon-Sat) to secure your preferred time slot.

Others Vs **Learnbay**

	Learnbay	OTHERS
Training Mode	100% Online & Hybrid (Online + Classroom)	Only recorded class & few live online
Support	24/7 Student Support	Limited Support Hours
Placement	100% Placement Assistance	Limited Placement Support
Curriculum	Included in Latest Curriculum	Often Not Included
Faculty	Experienced Industry Professionals	Academics and Trainers
Real-Time Projects	Practice with Live Projects and Team Management	Simulated Projects

Alumni **Spotlight**

Shravanthi A
Data Scientist

Learnbay has helped me a lot to learn data science applications in the e-commerce industry. The live class concept was really helpful in receiving proper DS training. Thanks to all my mentors and the placement team.

Mechanical Domain → **Data Scientist @** Ford

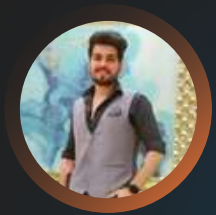
230% Salary Hike

Preksha Mishra
Lead Data Scientist

The course structure is excellent with emphasis on concept building and tools & software at the same time. The support team is excellent and supportive and quite agile to respond to doubts.

Telecom Domain → **Data Scientist @** HCL

140% Salary Hike



Karan Chawala

xceedance → EXL

Data Scientist

Jaya Sinha

Aditya Birla Group → Infosys

Senior Analyst

Shubham Dev

Sapient → brillio

Lead Data Analyst

Alumni **Spotlight**

Mohd. Israr
Data Scientist

Thanks to the Learnbay data science course & excellent guidance, I was able to ace the TCS interview and secure a job with a 210% pay raise. The real-world time projects helped me develop my concepts as a data scientist.

Mechanical Domain → **Data Scientist @** TCS **230% Salary Hike**

Saurabh Kumar
Data Scientist

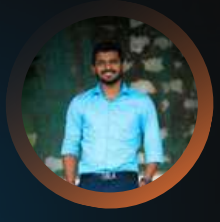
When I joined Learnbay I did not have any knowledge apart from the very basics. I gradually build my concept via various trainers and get trained in data science with strong knowledge/concepts.

Mathematics Professor → **Data Scientist @** Teleperformance **135% Salary Hike**

Aravind

TheMathCompany → CATERPILLAR

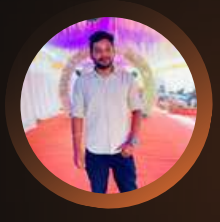
Data Scientist



Ritesh Kumar

unacademy → Capgemini

Senior Analyst

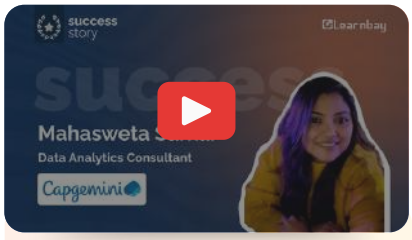


Ramki

cognizant → ANBSYSTEMS

Data Analyst

Success **Story**



Mahasweta Sarkar

Data Analytics Consultant

Capgemini

Manoj Kuna

Data Analysis Engineer

general motors

Bhavin Shah

Data Analyst

KPMG

Arvind K.

Sr. Data Scientist

TheMathCompany

Nandini Devi Muthu

Data Analyst

Rajashree B

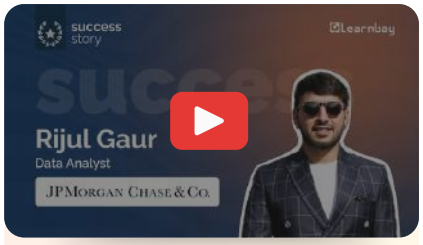
Data Quality Analyst

DATA POEM

Pinky Bhansali

Process Lead

AXA



Rahul Gaur

Data Analyst

JPMorgan Chase & Co.

Jaya Sinha

Data Scientist

amazon

Get certified

and accelerate your career growth

E&ICT IIT Guwahati

Certification from **E&ICT Academy, IIT Guwahati**

- Executive Certification: Earned in DS & AI from E&ICT, IIT Guwahati.
- Hands-On Experience: Practical learning at IIT Guwahati campus.
- Top Faculty: Learn directly from IIT experts.

IBM & Microsoft Project

IBM & Microsoft Certification

- Global Credentials: Certified by IBM & Microsoft.
- In-Demand Skills: Gain expertise recognized worldwide.
- Career Boost: Elevate your job prospects and earnings.

Fee & Batch **Details**

Live online classes

- Live online interactive sessions
- 1:1 online Doubt Session with experts
- Virtual Mock interviews
- Online Capstone projects

Program Fee

₹ 1,90,000 + 18% GST

Pay in easy EMIs starting as low as

₹ 12,455/ month

Hybrid classes

Live online classes with

- Offline classroom doubt sessions on weekends
- Offline Mock Interviews with 3-5 members panel
- Offline Classroom Capstone projects in: **Pune, Delhi, Bangalore, Chennai, Hyderabad and Mumbai**

Program Fee

₹ 2,15,000 + 18% GST

Pay in easy EMIs starting as low as

₹ 14,094/ month

Learnbay

Program Curriculum

A unique program for Managers and Leaders!

www.learnbay.co

77956 87988

Journey to **Upskilling**

Term 1 6 Weeks

Foundations of Data Science and Leadership

This term covers Business Strategy, Excel for Managers to align data initiatives with business goals, ensure ethical data usage, and manage data quality effectively.

tools: Excel

Term 2 18 Weeks

Technical Skills for Data Science

This term covers in-depth practical knowledge of Python, Statistics, Machine Learning and GenAI for Managers and Leaders

tools: Python Statistics Machine Language GenAI

Term 3 10 Weeks

SQL, Tableau, Power BI, Big data

This term covers all the essential modules of Data Visualization and Big Data

tools: Power BI SQL Tableau Big data

Bonus

Domain + 2 capstone project)

Domain expertise will be covered this term, along with the opportunity to select 2 capstone projects from the following domains:

BFSI, Manufacturing, Retail, HR, Marketing, Sales, and Healthcare.

Term 4 8 Weeks

AI Tools

This term covers AI for Leaders, delving deeply into Deep Learning, NLP, Deployment, and Project Management.

tools: Deep learning Deployment

Projects

Executive-level real-time Industrial Projects

Use cases in: BFSI, Manufacturing, Retail, HR, Marketing, Sales, Healthcare

Practical Project Experience


Practical Skills


Project Lifecycle


Lead a Team


Industry Knowledge

TERM 1 Foundations of Data Science and Leadership 6 Weeks

Module 1: Introduction to data science for Managers

8 hours

- What is Data Science, Data Analytics, Machine Learning, Artificial Intelligence?
- Role of Data in Various Industries and Businesses
- Utilizing Data to Enhance Industrial Operations and Management
- Use Cases of Data Analytics and AI in Various Domains
  - BFSI
  - Manufacturing
  - Retail
  - HR
  - Marketing
  - Sales
  - Healthcare
- Various Job Roles in Data Science and AI

Outcome: Acquire essential skills to leverage data, analytics, and AI for enhancing decision-making, operational efficiency across various industries.

Module 2: AI in Business Strategy

4 hours

- AI-Driven Decision Making: Leveraging AI for strategic business decisions
- AI and Business Process Automation: Automating business processes using AI
- Case Studies: Successful AI implementations in various business domains

Module 3: Data Strategy and Governance for Managers

8 hours

- Developing a Data Strategy
  - Aligning data initiatives with business goals
  - Roadmap for data maturity
- Data Governance and Ethics
  - Establishing data governance frameworks
  - Ethical considerations in data usage
- Managing Data Quality
  - Ensuring data integrity and accuracy
  - Tools and techniques for data validation

Outcome: Develop a strategic approach to align data initiatives with business goals, establish governance frameworks, ensure ethical data usage, and manage data quality effectively.

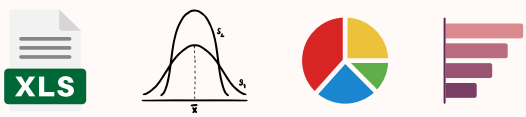
TERM 1 Foundations of Data Science and Leadership 6 Weeks

8 hours

Module 4: Excel

- **Introduction to Excel for Data Science**
  - Overview of Excel Interface and Functions
  - Data Types and Data Entry
  - Basic Formulas and Functions
- **Data Cleaning and Preparation in Excel**
  - Data Importing and Exporting
  - Handling Missing Data
  - Data Validation Techniques
- **Data Analysis with Excel**
  - Descriptive Statistics (Mean, Median, Mode)
  - Using Excel for Statistical Analysis
  - Data Filtering and Sorting
- **Advanced Excel Functions**
  - Lookup Functions (VLOOKUP, HLOOKUP)
  - Conditional Functions (IF, SUMIF, COUNTIF)
  - Text Functions (CONCATENATE, LEFT, RIGHT)
- **Data Visualization with Excel**
  - Creating Charts and Graphs (Bar, Line, Pie)
  - Advanced Charting Techniques
  - Conditional Formatting for Data Insights
- **PivotTables and PivotCharts**
  - Creating and Using PivotTables
  - Analyzing Data with PivotCharts
  - Slicers and Timelines for Data Segmentation

Tools and topics covered:



TERM 1 Foundations of Data Science and Leadership 6 Weeks

8 hours

Module 4: Excel

- **Data Automation in Excel**
  - Using Macros for Automation
  - Introduction to VBA (Visual Basic for Applications)
  - Automating Repetitive Tasks

- **Project Management in Excel**
  - Creating Project Plans and Timelines
  - Tracking Progress with Gantt Charts
  - Resource Allocation and Budgeting
  - Using Excel Templates for Project Management

- **Case Studies and Applications**
  - Real-world Applications of Excel in Data Science
  - Case Studies from Various Industries
  - Best Practices for Data Analysis in Excel

Practice: Learners will practice cleaning and preparing data, performing statistical analysis, using advanced Excel functions, creating charts and graphs, and working with PivotTables and PivotCharts to analyze and visualize data effectively.

Outcome: Develop a strategic approach to align data initiatives with business goals, establish governance frameworks, ensure ethical data usage, and manage data quality effectively.

TERM 2 Technical Skills for Data Science 18 Weeks

8 hours

Module 5: Python

- **Programming Basics & Environment Setup**
  - Installing Anaconda, Git, GitHub, Jupyter Notebook basics
  - Python 2.7 vs Python 3, writing your first Python program, operators, input, comments
- **Functions and Modules**
  - Defining, calling functions, Lambda functions
  - Using built-in and user-defined modules, iterators, generators
- **Strings, Decisions & Loop Control**
  - Working with numbers, booleans, strings
  - if, if-else, if-elif statements
  - while and for loops, continue, break
- **Python Data Types**
  - Lists, tuples, dictionaries
  - Indexing, slicing, basic operations, built-in functions
- **File I/O and Exception Handling**
  - Opening, closing files, read, write, seek
  - Exception handling, regular expressions
- **Data Analysis Using Pandas**
  - Importing data, DataFrames, indexing, basic operations, renaming columns

Practice: Learners will practice setting up a Python environment, writing Python programs, using functions, controlling loops, handling data types, performing file operations, managing exceptions, and analyzing data with Pandas.

TERM 2 Technical Skills for Data Science 18 Weeks

Module 5: Python

8 hours

- **Data Analysis Using Numpy**
  - Array creation, indexing, slicing, shape manipulation, vector stacking, statistical operations
- **Data Visualization Using Matplotlib**
  - Plotting, controlling line properties, multiple plots, histograms
- **Data Visualization Using Seaborn**
  - Visualizing statistical and categorical data, linear relationships
- **Assessments and Case Studies**
  - Assessment test in Python
  - Case studies on Numpy, Pandas, Matplotlib, Seaborn
  - Real-time use cases with assignments
- **Assignments**
  - 10 coding exercises on Python basics
  - 10 programs on lists, tuples, dictionaries, matrices
  - 10 coding exercises on functions, lambda, I/O, file, regular expressions

Module 6: Statistics

8 hours

- Fundamentals of Math and Probability
  - Probability distribution function, cumulative distribution function
  - Conditional Probability, Baye's Theorem
  - Random Experiments, Mutually Exclusive Events, Joint Events, Dependent & Independent Events
  - Central Limit Theorem, Point and Interval estimates, Z-distribution, T-Distribution

TERM 2 Technical Skills for Data Science 18 Weeks

Module 6: Statistics

8 hours

- **Descriptive Statistics**
  - Measures of Central Tendency: Mean, Median, Mode
  - Measures of Dispersion: Standard Deviation, Variance, Range, IQR
  - Symmetry/Shape: Skewness, Kurtosis
  - Five Point Summary, Box Plot, Outliers (I-QR and Z-Score Methods)

- **Inferential Statistics**
  - Population vs Sample, Sample Size
  - Sampling Methods: Random, Systematic, Cluster, Stratified, Convenience, Quota, Snowball, Judgement
  - Hypothesis Testing: Null and Alternative Hypothesis, One-tailed and Two-tailed Tests, Type 1 and Type 2 Errors, P-value, Z-score, Chi-Square Test

- **Data Processing & EDA**
  - Data Wrangling: Pre-processing, cleaning, restructuring, integration, transformation
  - Missing Values, Outliers, Bivariate Analysis (Scatter Plots, Heatmaps), Introduction to Multivariate Analysis

- **Linear Algebra**
  - Matrices: Indexing, Square, Triangular, Diagonal, Identity, Addition, Scalar Multiplication, Multiplication, Transpose, Determinant, Trace

- **Regression Analysis**
  - OLS Algorithm, Gradient Descent, Cost Function, Evaluation Metrics (MAE, MSE, RMSE, R Square, Adjusted R Square)
  - ANOVA, ANCOVA, Pearson Correlation, Statistical Significance

TERM 2 Technical Skills for Data Science 18 Weeks

Module 6: Statistics

- ***Assignment 1:*** Probability assignments, including distribution functions, Baye's Theorem, and probability problem-solving.
- ***Assignment 2:*** Descriptive statistics exercises, including measures of central tendency, dispersion, and outlier detection.
- ***Assignment 3:*** Sampling methods and hypothesis testing exercises, covering population vs sample, types of sampling, and hypothesis testing.
- ***Assignment 4:*** Data processing and EDA assignments, including data wrangling, dealing with missing values, and bivariate analysis.

8 hours

- ***Case Study 1:*** Central Limit Theorem application and problem-solving.
- ***Case Study 2:*** Hypothesis Testing with real-world data, including T-test, Z-score test.
- ***Case Study 3:*** ANOVA and ANCOVA analysis, including regression analysis.
- ***Case Study 4:*** Real-time data exploration and analysis, covering EDA and visualization technique

TERM 2 Technical Skills for Data Science 18 Weeks

Module 7: Machine Learning

8 hours

- **Introduction**
  - Definition, Importance, Elements (Algorithm, Model, Predictor, Response, Training-Test Split)
  - ML Models: Supervised, Unsupervised, Reinforcement Learning

- **Data Preprocessing**
  - Encoding: OneHot, Mean, Label, Target Guided Ordinal
  - Handling Missing Values: MCAR, MAR, MNAR
  - Outlier Detection: IQR, Z Method
  - Feature Scaling: Absolute Maximum, Min-Max, Normalization, Standardization, Robust Scaling

- **Regression and Classification**
  - Linear Regression: OLS, Gradient Descent, Cost Function, MAE, MSE, RMSE, R Square
  - Logistic Regression: Sigmoid Function, Confusion Matrix, Precision, Recall, F1 Score, ROC Curve, AUC
  - Decision Tree: Splitting Constraints, Algorithms (CART, C4.5, ID3, CHAID), Methods (GINI, Entropy)
  - Random Forest: Ensemble Techniques, OOB Score, K-Fold Cross-Validation
  - Naive Bayes: Types (Gaussian, Multinomial, Bernoulli), Laplace's Correction
  - KNN: Distance Metrics (Manhattan, Euclidean), Lazy Learner Model, Multi Class Classification

- **Advanced Techniques**
  - Hyperparameter Tuning: GridSearchCV
  - PCA: Dimensionality Reduction, EigenValues, Scree Plot
  - Clustering: K Means (Algorithm, Elbow Curve), Hierarchical (Dendrogram, Agglomerative, Divisive)
  - SVM: Kernel Function, Support Vectors, Hyperplane, Gamma, Regularization

TERM 2 Technical Skills for Data Science 18 Weeks

Module 7: Machine Learning

8 hours

- **Case Studies**
  - Kart Model, Random Forest, SVM
  - Spam Email Classification (Logistic Regression)
  - Housing Price Prediction (Linear Regression)
  - E-commerce Recommendation Engine
  - Twitter Data Analysis (NLP)

Outcome: Learners will master the fundamentals of machine learning, including model development, data preprocessing, and advanced techniques for building and optimizing predictive models.

Module 8: GenAI for Leaders

8 hours

- **Introduction to Generative AI**
  - Overview and Applications in Business
  - Key Technologies: Generative Adversarial Networks (GANs), Variational Autoencoders (VAEs)
- **Core Concepts and Techniques**
  - GANs: Basics, Architecture, Use Cases
  - VAEs: Functionality, Applications
  - Transfer Learning in Generative AI
  - Reinforcement Learning for Generative Models
- **Business Applications of Generative AI**
  - Marketing: Automated Content Creation, Personalization
  - Finance: Synthetic Data Generation, Predictive Analytics
  - Operations: Process Optimization, Predictive Maintenance
  - HR: AI-Driven Recruitment, Performance Prediction

TERM 2 Technical Skills for Data Science 18 Weeks

8 hours

Module 8: GenAI for Leaders

- **Ethical and Responsible Use of Generative AI**
  - Fairness, Transparency, and Accountability in Generative AI
  - Identifying and Mitigating Bias in Generative Models
  - Legal and Compliance Issues Specific to Generative AI

- **Implementation Strategies for Generative AI**
  - Building an AI-Ready Culture: Leadership, Training
  - Developing a Generative AI Strategy: Vision, Goals
  - Choosing the Right Tools and Technologies for Generative AI
  - Case Studies: Successful Generative AI Implementations

- **Generative AI Project Management**
  - Managing Generative AI Projects: Phases and Best Practices
  - Resource Allocation and Budgeting for Generative AI Projects
  - Risk Management in Generative AI Projects: Identifying and Mitigating Risks
  - Performance Metrics and KPIs for Generative AI Projects

- **Future Trends in Generative AI**
  - Emerging Trends: Research and Development
  - Predictions and Impacts of Generative AI in the Next Decade
  - Innovations: Breakthrough Technologies in Generative AI

Outcome: Managers will benefit from understanding how to leverage Generative AI to drive innovation, optimize business processes, make data-driven decisions, and manage AI projects efficiently while ensuring ethical and responsible AI use.

TERM 3 SQL, Tableau, Power BI, Big data 10 Weeks

8 hours

Module 9: Big Data Tools

- **Introduction to Big Data**
  - Overview of Big Data: Definition, Characteristics, and Importance
  - The Role of Big Data in Modern Business
  - Key Concepts: Volume, Velocity, Variety, Veracity, and Value

- **Core Technologies in Big Data**

1. **Hadoop Ecosystem**
   - Introduction to Hadoop: Architecture and Components
   - HDFS (Hadoop Distributed File System): Storage Mechanism
   - MapReduce: Distributed Data Processing Framework
   - YARN (Yet Another Resource Negotiator): Resource Management in Hadoop

2. **Hive**
   - Introduction to Hive: Data Warehousing Tool for Hadoop
   - HiveQL: Query Language for Hive
   - Data Modeling in Hive: Tables, Partitions, and Buckets
   - Optimizing Hive Queries: Performance Tuning and Best Practices

3. **Apache Spark**
   - Introduction to Apache Spark: Unified Analytics Engine
   - Spark Core: RDDs (Resilient Distributed Datasets)
   - Spark SQL: Processing Structured Data with SQL
   - Spark Streaming: Real-Time Data Processing
   - MLlib: Machine Learning Library for Spark
   - GraphX: Graph Processing with Spark

TERM 3 SQL, Tableau, Power BI, Big data 10 Weeks

8 hours

Module 10: SQL

- **Introduction to SQL and RDBMS**
  - Importance of SQL in data management
  - Overview of RDBMS concepts
- **Basic and Advanced SQL Queries**
  - Basic Queries: SELECT, WHERE, ORDER BY, DISTINCT
  - Joins: INNER, SELF, CROSS, OUTER, LEFT, RIGHT, FULL, UNION
  - Grouping and Ordering: GROUP BY, HAVING Clauses
  - Aggregation: SUM, AVG, COUNT, MIN, MAX
- **Data Operations**
  - Subqueries, Partitioning, Filtering
  - Advanced Functions: Ranking, Top-N Analysis
- **NoSQL Databases**
  - Introduction to NoSQL, HBase, and MongoDB
  - CRUD Operations in MongoDB
  - Advantages over RDBMS
- **JSON Data & CRUD Operations**
  - Working with JSON data in SQL
  - Create, Read, Update, Delete operations
- **Assignments and Case Studies**
  - Practice joins, grouping, subqueries, and aggregation queries
  - Real-world scenarios and use cases

TERM 3 SQL, Tableau, Power BI, Big data 10 Weeks

8 hours

Module 11: Tableau

- **Introduction to Tableau**
  - Overview and Importance
  - Connecting to Data Sources
- **Visual Analytics**
  - Creating Various Charts: Bar, Line, Pie, Scatter
  - Working with Calculated Columns
  - Using Filters and Interactive Dashboards
- **Data Cleansing and Preparation**
  - Data Blending and Joins
  - Data Aggregation and Pivoting
- **Advanced Visualizations**
  - Maps: Plotting Latitude and Longitude, Custom Geocoding
  - Heat Maps, Tree Maps, and Bubble Charts
  - Using Parameters and Control Charts
- **Dashboards and Stories**
  - Creating and Designing Dashboards
  - Adding Interactivity with Actions
  - Building and Sharing Stories
- **Predictive Analytics**
  - Integrating with R and Python for Advanced Analytics
  - Forecasting and Trend Lines
  - Clustering and Segmentation
- **Case Studies and Hands-On Assignments**
  - Real-world Applications and Problem Solving
  - Building Comprehensive Dashboards and Reports

TERM 3 SQL, Tableau, Power BI, Big data 10 Weeks

8 hours

Module 12: PowerBI

- **Introduction to Power BI**
  - Overview and Importance of Power BI
  - Installing Power BI Desktop
  - Connecting to Data Sources
- **Data Transformation and Modeling**
  - Query Editor Interface
  - Data Cleaning and Transformation
  - Creating and Managing Data Models
- **Data Visualization**
  - Creating Basic Visuals: Bar, Pie, Tree Maps, Donut Charts
  - Advanced Visuals: Scatterplots, Waterfall Diagrams
  - Custom Visuals and Chart Types
- **Dashboards and Reports**
  - Building Interactive Dashboards
  - Using Filters and Slicers
  - Adding Interactivity with Actions
- **Advanced Analytics**
  - Time Series Analysis
  - Using DAX for Calculations and Measures
  - Creating Calculated Columns and Tables
- **Sharing and Collaboration**
  - Publishing Reports to Power BI Service
  - Sharing Dashboards and Reports with Stakeholders
  - Collaborating with Teams
- **Case Studies and Assignments**
  - Real-world Applications and Use Cases
  - Building Comprehensive Dashboards and Reports
  - Hands-on Assignments to Reinforce Learning

BONUS Domain Specialization & Capstone Project

8 hours

Domain Specialization + Capstone project

- **Industry-Specific Technologies and Innovations**
  - Overview of Emerging Technologies in the Domain
  - Impact of Digital Transformation on Industry Practices
- **Leadership and Change Management**
  - Leading Teams Through Industry Disruptions
  - Implementing Change and Innovation in the Workplace
- **Regulatory and Compliance Considerations**
  - Navigating Industry-Specific Regulations and Standards
  - Ensuring Compliance in a Rapidly Changing Environment
- **Capstone Project Preparation**
  - Developing a Strategic Plan for Domain-Specific Challenges
  - Presenting Solutions and Best Practices for Leadership

Choose any 2 Capstone Projects from the following:

BFSI

Predictive Analytics for Loan Default Risk

Objective: Develop a machine learning model to predict the likelihood of loan default, helping financial institutions minimize risk and optimize lending decisions.

Manufacturing

Implementing IoT for Predictive Maintenance

Objective: Design and deploy an IoT-based system to monitor equipment health in real-time, enabling predictive maintenance to reduce downtime and maintenance costs.

BONUS Domain Specialization & Capstone Project

8 hours

Domain Specialization + Capstone project

Choose any 2 Capstone Projects from the following:

Retail

Personalized Recommendation System for E-commerce

Objective: Build a recommendation engine using customer data to personalize product suggestions, enhancing customer experience and increasing sales.

HR (Human Resources)

AI-Driven Talent Acquisition Platform

Objective: Develop an AI-based tool to streamline the recruitment process by matching candidates to roles based on skills, experience, and cultural fit.

Marketing

Marketing Campaign Effectiveness Analysis

Objective: Analyze and evaluate the effectiveness of various marketing campaigns using data analytics, providing insights for optimizing future campaigns.

Healthcare

Predictive Model for Patient Readmission Risk

Objective: Create a predictive model to identify patients at high risk of readmission, allowing healthcare providers to implement preventive measures and improve patient outcomes.

Important Note: Successfully completing all assigned projects is mandatory to earn your certification. Each project is designed to help you apply the skills you've learned in practical, real-world scenarios.

TERM 4 AI Tools 8 Weeks

8 hours

Module 13: Deep Learning

- **Introduction to Deep Learning**
  - Overview and Importance
  - Key Technologies: Neural Networks, TensorFlow
- **Core Concepts**
  - Neural Networks: Layers, Activation Functions
  - Deep Learning Models: CNN, RNN
  - Training Techniques: Backpropagation, Gradient Descent
- **Practical Applications**
  - Image Classification with CNNs
  - Text Analysis with RNNs
  - Time Series Forecasting
- **Tools and Libraries**
  - TensorFlow and Keras: Installation, Basics, Building Models
  - PyTorch: Building CNNs and RNNs

8 hours

Module 14: Deep Learning

- **Core NLP Techniques**
  - Text Preprocessing: Tokenization, Stemming, Lemmatization
  - Named Entity Recognition (NER)
  - Part-of-Speech (POS) Tagging
  - Sentiment Analysis
- **Advanced NLP Models**
  - Word Embeddings: Word2Vec, GloVe
  - Transformers: BERT, GPT
  - Sequence Models: RNN, LSTM
- **Practical Applications**
  - Text Classification: Spam Detection, Sentiment Analysis
  - Language Translation
  - Text Summarization

TERM 4 AI Tools 8 Weeks

- Tools and Libraries
  - NLTK, spaCy, Transformers
  - Practical Implementation using Python

Module 15: Deployment

8 hours

- **Introduction to Cloud Deployment**
  - Overview and Importance
  - Key Cloud Service Providers: AWS, Azure, Google Cloud
- **Core Concepts**
  - Cloud Infrastructure: IaaS, PaaS, SaaS
  - Virtual Machines and Containers: Docker, Kubernetes
  - Serverless Computing
- **Deployment Strategies**
  - Continuous Integration and Continuous Deployment (CI/CD)
  - Infrastructure as Code (IaC)
  - Monitoring and Logging
- **Practical Applications**
  - Deploying Applications on AWS, Azure, Google Cloud
  - Using Docker and Kubernetes for Container Management
  - Implementing Serverless Architectures
- **Tools and Services**
  - AWS: EC2, S3, Lambda
  - Azure: Virtual Machines, Blob Storage, Functions
  - Google Cloud: Compute Engine, Cloud Storage, Cloud Functions
- **Security and Compliance**
  - Cloud Security Best Practices
  - Data Encryption and Access Control
  - Compliance and Regulatory Considerations

TERM 4 AI Tools 8 Weeks

Module 15: Deployment

- **Implementation Strategies**
  - Developing a Cloud Deployment Strategy
  - Case Studies: Successful Cloud Deployments
- **Project Management**
  - Managing Cloud Deployment Projects
  - Resource Allocation and Budgeting
  - Performance Metrics and KPIs

Project: Automated Document Summarization Using NLP and Generative AI

Objective: Develop and deploy an automated system that uses Natural Language Processing (NLP) and Generative AI to summarize large documents into concise, readable summaries.

Technologies: NLP libraries (e.g., spaCy, NLTK), Generative AI models (e.g., GPT), deployment on a cloud platform (e.g., AWS, Azure).

Outcome: A scalable solution that helps businesses and individuals quickly extract key information from extensive texts, improving productivity and decision-making.

Executive-level real-time **Industrial Projects**

#1

Predictive Maintenance for Electric Vehicles

Implement a predictive maintenance system to forecast and prevent potential failures in electric vehicle components.

Tools: Apache Spark, hadoop

Outcome: Reduced maintenance costs and downtime, improved vehicle reliability and customer satisfaction.

#2

Supply Chain Optimization

Analyze and optimize supply chain operations to reduce costs and improve efficiency using historical sales and logistics data.

Tools: tableau, python

Outcome: Streamlined supply chain processes, reduced operational costs, and improved product availability.

#3

Customer Purchase Prediction

Develop a machine learning model to predict customer purchase behavior based on historical data and browsing patterns

Tools: TensorFlow, Amazon SageMaker

Outcome: Enhanced marketing strategies and personalized recommendations, leading to increased sales and customer satisfaction

#4

Drug Discovery Acceleration

Utilize AI and machine learning to accelerate the drug discovery process by predicting the efficacy of potential compounds

Tools: R, IBM Watson

Outcome: Faster time-to-market for new drugs and significant cost savings in research and development.

Executive-level real-time **Industrial Projects**

#5

Microsoft

Employee Productivity Analysis

Analyze employee performance data to identify factors that impact productivity and develop strategies to enhance efficiency

Tools: Power BI, Azure, python

Outcome: Improved employee performance and productivity, leading to higher overall organizational effectiveness.

#6

NETFLIX

Content Recommendation Engine Enhancement

Enhance the recommendation engine to provide more accurate and personalized content suggestions to users

Tools: python, kafka, Spark

Outcome: Increased user engagement and retention, leading to higher subscription rates.

#7

JPMorgan Chase & Co.

Fraud Detection System

Implement an advanced fraud detection system to identify and prevent fraudulent transactions in real-time

Tools: TensorFlow, python

Outcome: Reduced financial losses due to fraud and increased customer trust and security.

#8

Uber

Dynamic Pricing Optimization

Develop a dynamic pricing model that adjusts fares based on demand, supply, and other external factors

Tools: MATLAB, HIVE

Outcome: Maximized revenue and improved service availability during peak times.

Executive-level real-time **Industrial Projects**

#9

Google

Ad Spend Optimization

Develop a data-driven strategy to optimize ad spend across different channels by analyzing performance metrics and customer behavior

Tools: Google Big Query, python

Outcome: Increased ROI on advertising campaigns and more effective allocation of marketing budgets.

#10

facebook

User Sentiment Analysis

Analyze user posts and comments to gauge public sentiment and identify trends and patterns

Tools: python, NLTK, STORM

Outcome: Better understanding of user preferences and improved content and advertising strategies.

#11

CapitalOne

AI-based Financial Portfolio Optimization

Develop a system that uses AI to optimize financial portfolios by analyzing market trends, risk factors, and investor preferences

Tools: TensorFlow 2.0, python

Outcome: A web app suggesting tailored financial portfolios for CapitalOne clients based on risk tolerance and goals.

#12

headspace

AI tool for monitoring mental health

Develop an AI tool to monitor user engagement with meditation and mental health content to offer personalized well-being suggestions

Tools: Flutter, React Native, NLP

Outcome: Tracks user interactions, sentiment, and usage patterns to offer personalized mental health advice, detect distress signs, and suggest interventions.

Learnbay

Thank you!

For more queries and information please reach out to us at:

+91 77956 87988

Visit us at

www.learnbay.co