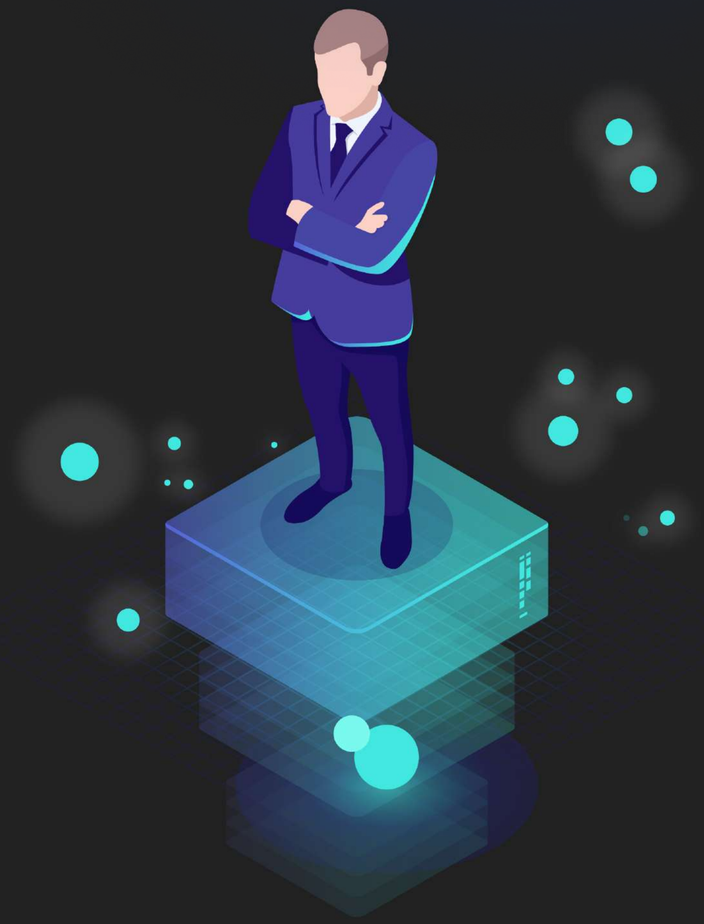
ENTRI elevate

Professional
Certificate Program in

Data Science & Machine Learning

Entri Elevate

Developing you into a Job ready resource in Technology. Entri Elevate-coding program is a rigorous coding training program designed and driven by industry experts. Here, you will be trained to develop programming aptitude and hands-on projects in Data Science, Machine Learning, and Business Analytics and we will make your placement ready to attend the placement interview in top companies. This course has been designed by industry experts and experienced trainers.



Why Data Science

Top skills in the 21st century Data now influences decisions made everywhere from regional offices to the boardroom. Therefore, graduates of data science are directly involved in the highest echelons of corporate decision-making. The United States is the greatest center for data analysts, and data science is one of the industries with the highest demand globally for 2021. Every sector, including those in finance, retail, healthcare, and information technology, has welcomed data science and analytics specialists.

The U.S. Bureau of Labor Statistics recently released a report that predicts that by 2026, employment would increase by 27.9% due to skills in data science. Company analytics is all about drawing conclusions from unstructured data and leveraging those conclusions to positively affect business choices. Companies can detect missed opportunities and improve future performance by analyzing their historical performance.

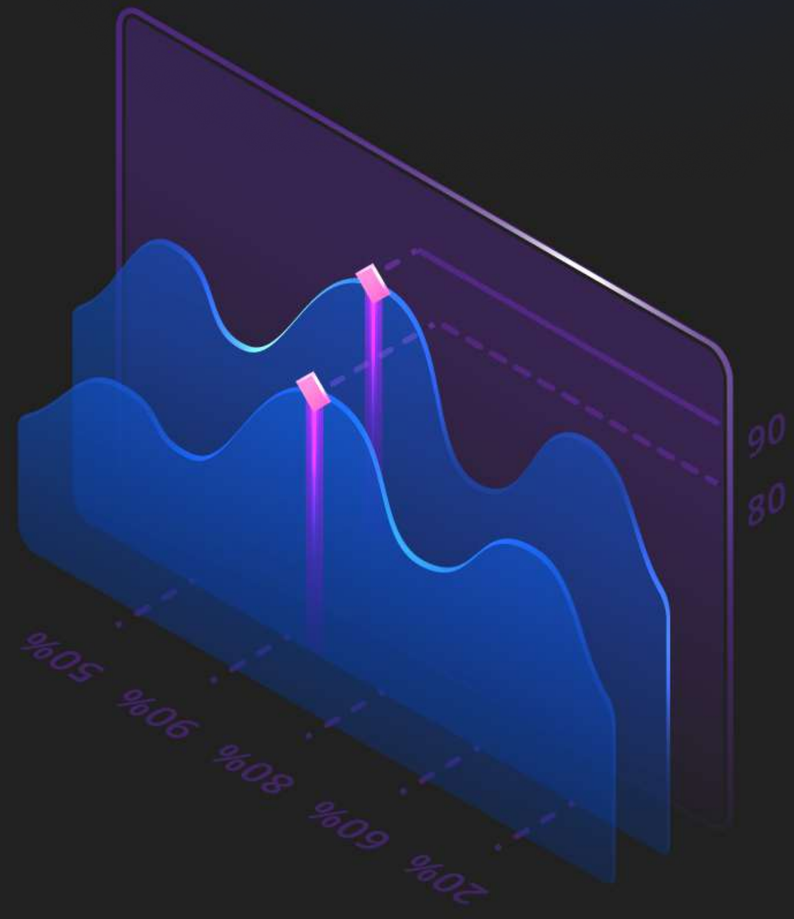
Business analytics has more promise than just finding ways to improve operational and decision-making efficiency. Analytical research can be used by businesses to identify untapped opportunities, such as new markets, client categories, product concepts, etc. The ability to expand and improve revenues grows significantly as new avenues open. The demand for qualified personnel is growing as more firms become aware of the value of data supported by various data science technologies. As we speak, the worldwide business analytics industry is expanding gradually, indicating that there is a rising demand for qualified business analytics specialists. In fact, one of the most difficult talents to master in 2019 was business analysis. Sadly, the demand is not meeting

$119,702

is the average base salary of
a Data Scientist in the U.S.

28% growth

is expected in Data Science jobs starting
now through 2026 as per a report from the
U.S. Bureau of Labor Statistics



Program Highlights

1. Structured curriculum aligned with industry standards
2. Inclusive & Immersive Hybrid Training Sessions
3. Industry Expert Sessions
4. Self-Paced Learning Contents in Native Language (Malayalam)
5. Soft Skill Sessions
6. Personal Skill Assessment & Learning Path Suggestions for Technical Upskilling
7. Guaranteed Placement Support
8. Community Linking
9. Placement Training

PROFESSIONAL CERTIFICATE PROGRAM IN DATA SCIENCE

Professional Certificate Program in DS & ML with Entri Elevate is one of the most advanced certificates available to those in the field of business

Format

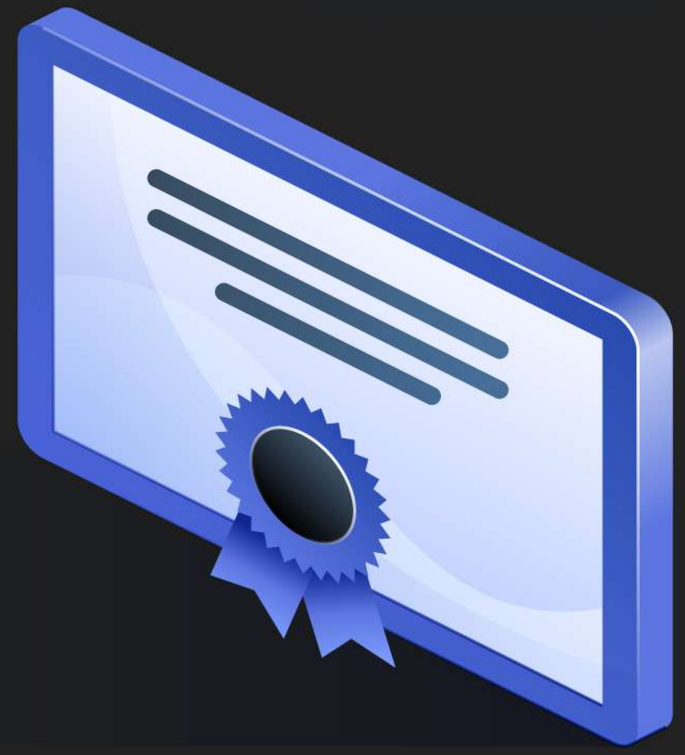
Online (Recorded video lectures + Interactive mentored learning)

Duration

28-32 Weeks

Projects

Section-wise projects + Major Capstone Project



Key Learning Outcomes

- Develop your knowledge of the most popular analytics tools and technologies
- Develop the capacity to use analytics and data science to solve business problems on your own
- Learn about Data Science uses and ramifications in various industries
- Learn how to extract key business insights from data and convey them to stakeholders in a clear and concise manner
- Create models that forecast future trends and utilize them to guide business problems
- Apply cutting-edge ML algorithms to develop solutions for real-life business problems
- Design the AI strategy for your vertical and evaluate the various factors involved in its implementation

Curriculum

MODULE 0

Preparatory Session

1. Introduction to Programming

What is programming?, Compiler,Interpreter, Source Code, Machine code, Algorithms, Editors.

2. Introduction to Data Science

What is Data Science?, Job Roles,Terminologies, data science applications and its work flows.

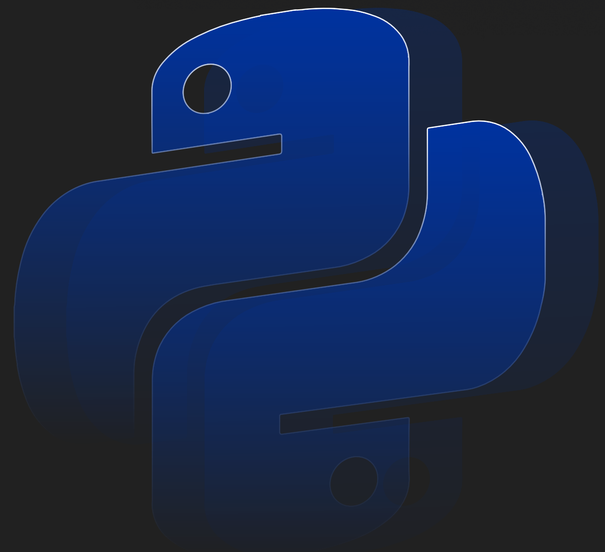
MODULE 1

Python programming

1. Language Introduction and Installation
Python history, Python features, python and pycharm installation.

2. Python Basics
Print command, comments,escape sequences, variables,data types, user interactive command, operators

3. Conditional and looping statements
Selection statements, Control statements, break and continue statements, nested loops.



4. Data Structures in python
Introduction to user defined data structures and non-primitive data structures:list, dictionaries, set,tuples, strings and sequences,accessing and modifying elements in data structures,comprehension: list, set and dictionary.

5. Functions in Python
Defining functions, passing arguments to functions, different types of arguments, returning values from functions, local and global namespace, lambda function, recursion, filter, map,reduce, eval. Generators and decorators.

6. File Handling and Exception Handling
File processing, Reading and writing files using ‘with’ statements. What is an Exception?, raising and catching exceptions and handling errors gracefully using try-catch-finally.

7. Object Oriented Programming
Introduction to OOPs, Classes and objects, inheritance and polymorphism, encapsulation and abstraction.

8. Modules in Python
Introduction to modules, importing modules, creating and using modules.

9. Regular Expressions
Defining regular expressions, using regular expressions with python.

10.Pandas and Numpy
Introduction to Pandas library, reading and writing data with pandas, data cleaning and exploration with pandas. Introduction to numpy, numpy basic operation.

11. Data Visualization with Matplotlib and seaborn
Introduction, basic and advanced plotting technique

Module 2

MySQL

1. Introduction to SQL
Introduction to databases and database management system, Overview of MySQL, Installing and getting started with MySql workbench.

2. SQL Database
Creating databases, dropping databases, introduction to tables, data types in MySql.

3. Data Definition Language
Introduction DDL commands, creating table, modifying table using ALTER, DROP, TRUNCATE, RENAME

4. Data Manipulation Language
Overview of MySQL SELECT statement, retrieving data, filtering and sorting, joining and combining data, updating and deleting data, inserting data, constraints(PRIMARY KEY, FOREIGN KEY, UNIQUE, NOT NULL).

5. MySQL Functions and Joins
MySql built-in functions, inner, outer and self joins
and combining data from multiple tables.

6. MySQL subqueries and views
Subqueries and nested queries,creating and using views,
normalization and denormalization

7. MySQL stored procedures and triggers
Creating and using stored procedures and triggers, database security and user management.

Project

Build a simple database to help us manage the booking process of a sports complex. The sports complex has the following facilities: 2 tennis courts, 2 badminton courts, 2 multi-purpose fields and 1 archery range. Each facility can be booked for a duration of one hour. Only registered users are allowed to make a booking. After booking, the complex allows users to cancel their bookings latest by the day prior to the booked date. Cancellation is free. However, if this is the third (or more) consecutive cancellations, the complex imposes a $10 fine.

Module 3

PowerBI

1. PowerBI Introduction

Introduction, powerBI, power query editor, powerBI service, Installation and configuration of powerBI desktop, connecting to data sources and loading data

2. Data modeling in PowerBI

Understanding data modeling and relationships, creating relationships between tables, building hierarchies and calculated columns, transforming using power query.

3. Data Visualization in PowerBI

Understanding data visualization best practices, building basic visualizations(charts, graphs, tables etc..), formatting and customizing visualizations.

4. Building Interactive reports
Using filters and slicers to create interactive reports, building drill-through reports and drill-down visualizations, creating bookmarks and scenarios.

5. Creating Dashboards
Building dashboards with multiple visualizations, creating dashboards tiles and adding images, creating custom visuals using powerBI

6. Data Analytics with PowerBI
Understanding data analytics and DAX language, creating DAX formulas and measures.

7. Project
Financial Performance analysis: to optimize financial reporting in a firm that provides customers to track their financial health and productivity. Create data models and visualizations, and dashboards and present the project results and insights.

Module 4

Machine Learning

1. Probability & Statistics

Definition of probability,conditional probability,independent events, Bayes' rule, Random variables, discrete random variable, continuous random variable, probability density function, mean, median, mode, Standard deviation, correlation, correlation coefficient. Testing of hypothesis, confidence interval, Chi-squared test, t-test

2. Introduction to Machine Learning

Machine learning concepts and applications,Overview of Supervised, Unsupervised, and Reinforcement learning.Exploring common machine learning algorithms

3. Data Preprocessing for Machine Learning

Types of Data: Categorical and Numerical Data, Understanding data preprocessing and its importance in machine learning, Handling missing data, outliers, and categorical variables, Label Encoding, Feature scaling and normalization techniques.Python Library: Numpy, Pandas, Sklearn

4. Project

Use a dataset then remove NaN values and apply label encoder and scaling methods.

5. Supervised Learning : Regression
Understanding regression analysis and its use in machine learning, Building linear regression models, Evaluating model performance and making predictions.

6. Project using Regression
Create a model using Linear regression algorithms and predict using the best algorithm among them.

7. Supervised Learning : Classification
Understanding classification analysis and its use in machine learning, Building logistic regression, Support Vector Machines, Random Forest, K-Nearest Neighbor, Naïve Bayes and Decision tree models. Evaluating model performance using different classification accuracy metrics and making predictions.

8. Project
Create a model using different algorithms for a given dataset and choose the best algorithm among them.

9. Unsupervised Learning : Clustering Understanding clustering analysis and its use in machine learning, Building k-means and hierarchical clustering models,Evaluating model performance and making predictions,

10. Project
Create a model using different algorithms and predict using the best algorithm among them.

11. Unsupervised Learning -
Dimensionality Reduction Understanding dimensionality reduction and its use in machine learning,Building principal component analysis (PCA) and t-SNE models,Evaluating model performance and making predictions.

12. Natural Language Processing
Basic concept of NLP, Data Cleaning: remove punctuations, tokenization, remove stop words, stemming, lemmatization.Packages of NLP : NLTK (Natural Language ToolKit), Pattern, TextBlob,Vectorization techniques: Bag of Words, TF-IDF

13. Project
For the given paragraph do the following: word_tokenise and sent_tokenise, using stop words eliminate most common words and do stemming and lemmatization.

Module 5

Introduction to Deep Learning

Deep learning basics: Neural Network, perceptron,Back-Propagation, Activation functions, Deep networks, Regularization, Dropout, Batch Normalization.Python libraries for Deep learning : Keras, Tensor flow. Convolutional neural networks: Introduction to CNNs, Convolution, Correlation, FIltering. CNN architectures, Compiling and fitting a model Advanced Deep architectures:Recurrent Neural networks (RNNs), Advanced RNN: LSTM

Project: Create a deep network model using CNN and calculate its accuracy and loss values.

ELEVATE Learning Experience

Student Support

Student Support is available all-day For urgent queries, use Slack groups

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Q&A Forum

Timely doubt resolution by peers and Teaching Assistants on the Q&A forum Personalized feedback on assignments and case studies

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Expert Feedback

Personalized expert feedback on assignments and projects
Live sessions by experts to clarify concept-related doubts

Industry Networking

Live sessions by experts on various industry topics Discussions and feedback sessions with industry mentors

Career Support

Personalized Industry Mentorship
Get mentored by an experienced data science expert and receive personalized feedback for better career guidance

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Resume Review
Obtain specific, personalized inputs on your resume structure and content

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Live profile-building workshops
Be it your resume, GitHub, or Kaggle, build your profile with hands-on sessions.

YOUR **MENTORS**

Shyam Anand
Senior Software Engineer, Google.

Amrit Sanjeev
Staff Developer Advocate, Google.

Dineshkarthik Raveendran
Staff Data Engineer, Tesla.

Anil Unnikrishnan
Tech Lead and Project Owner, NEON (Samsung).

Narayan Babu
Vice President, US Credit & Mobile Infra, Zeta Suite.

YOUR **TRAINERS**

Deepthi
Research Scholar Data Science Machine Learning Associate Mentor

Greeshma S
3+ Years Training Experience Data Science Machine Learning Associate Mentor

Siji Satheesan
Data Science Lead Trainer

HIRING **PARTNERS**

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