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Hyderabad's Top 10
Startups Recognition 2024

Data Analytics with AI Tools

Master Excel, SQL, Python, dashboards, statistics, ML fundamentals, and AI-assisted analytics workflows.

PROGRAM SNAPSHOT

4 Months Live Training	**1 Year** LMS Access	**Recorded** Sessions	**Capstone** Project	**90%** Attendance Expected	**80%** Projects Completion

PROGRAM OVERVIEW

The Data Analytics with AI Tools program is a 4-month online live training program designed to help learners build practical skills in Excel, SQL, Python, Power BI, Tableau, business statistics, data visualization, machine learning fundamentals, and AI-powered analytics workflows. The program focuses on real datasets, business case studies, dashboards, analytics reports, assignments, and capstone projects.

Program Highlights

- 4 months online live training
- LMS access for 1 year with class recordings
- Assignments, case studies, and mentor feedback
- AI tools integrated into the learning workflow
- Capstone project in the final phase
- Certificate eligibility based on attendance, assignment completion, fee clearance, and policy compliance
- Real datasets and business analytics case studies
- Dashboard building and analytics reporting

Key Skills You Will Master

- Data cleaning	- Data transformation
- Data visualization	- Business intelligence
- SQL querying	- Python-based data analysis
- Dashboard creation	- Business statistics
- Machine learning fundamentals	- AI-assisted analytics
- Report writing	- Insight presentation

Tools You Will Work With

Excel	**Google Sheets**	**MySQL**	**Python**
Jupyter Notebook	**Google Colab**	**NumPy**	**pandas**
Matplotlib	**Seaborn**	**Power BI**	**Tableau**
scikit-learn basics	**ChatGPT**	**Gemini**	**Claude**

GitHub	Kaggle

What You Will Build

Interactive Dashboards	Analytics Reports	SQL Query Portfolio	Python EDA Notebooks	Capstone Portfolio
Build Power BI/Tableau dashboards with KPIs.	Create data-backed business reports.	Write practical queries for business datasets.	Analyze data using pandas and visualization.	Present a complete analytics case study.

Learn by doing with live classes, assignments, projects, capstone work, LMS recordings, and mentor feedback.

Important Note: Careerpedia does not guarantee placements, employment, job offers, interview calls, salary outcomes, or employer selection. The program focuses on training, skill building, projects, assessments, and structured learning support.

DETAILED COURSE CURRICULUM

Data Analytics with AI Tools

The curriculum below is structured module-wise so learners can clearly understand exactly what is covered, what tools are used, and what practical work is expected.

Module 1: Data Analytics Fundamentals

This module introduces learners to the complete data analytics process and how businesses use data for decision-making.

Topics Covered

- What is data analytics?
- Difference between data analyst, data scientist, business analyst, and BI analyst
- Types of data: structured, semi-structured, and unstructured
- Data analytics lifecycle
- Business problem identification
- Data source identification
- Data collection process
- Data cleaning and transformation
- Data analysis and interpretation
- Data visualization and reporting
- Data-driven decision-making
- Analytics use cases across sales, marketing, finance, HR, operations, and customer support

Practical Activities

- Business problem identification worksheet
- Data analytics process mapping
- Sample business case discussion
- Understanding raw data vs cleaned data

Module 2: Excel and Google Sheets for Data Analysis

This module helps learners master spreadsheet-based analytics, which is widely used in business reporting and entry-level analytics roles.

Topics Covered

- Excel interface and workbook structure
- Rows, columns, cells, sheets, and workbooks
- Data entry and formatting
- Keyboard shortcuts for productivity
- Copy, paste special, fill series, and flash fill
- Relative, absolute, and mixed cell references
- SUM, SUMIF, SUMIFS
- COUNT, COUNTA, COUNTIF, COUNTIFS
- AVERAGE, AVERAGEIF, AVERAGEIFS
- MIN, MAX, ROUND, IFERROR
- Logical functions: IF, AND, OR, NOT, Nested IF
- Lookup functions: VLOOKUP, HLOOKUP, XLOOKUP, INDEX, MATCH
- Text functions: LEFT, RIGHT, MID, LEN, TRIM, UPPER, LOWER, PROPER, CONCAT
- Date functions: TODAY, NOW, DAY, MONTH, YEAR, EOMONTH
- Data validation and dropdowns
- Conditional formatting
- Sorting and filtering
- Removing duplicates
- Pivot tables and pivot charts
- Slicers and report filters
- Dashboard creation in Excel
- Power Query basics
- Combining multiple sheets and files
- Basic automation using macros introduction

Practical Activities

- Sales report creation

- Customer database cleaning
- Pivot table report
- Excel dashboard
- Monthly performance report
- Data cleaning assignment

Module 3: SQL and MySQL for Data Analytics

This module trains learners to extract, filter, join, and analyze data from relational databases using SQL.

Topics Covered

- Introduction to databases and RDBMS
- Tables, rows, columns, records, and relationships
- Primary key and foreign key
- SQL command types: DDL, DML, DQL, DCL, TCL
- MySQL Workbench setup
- Creating databases and tables
- SQL data types: numeric, character, date/time
- Constraints: NOT NULL, UNIQUE, CHECK, DEFAULT, PRIMARY KEY, FOREIGN KEY
- SELECT queries and WHERE condition
- DISTINCT, LIMIT, ORDER BY
- AND, OR, IN, NOT IN, BETWEEN
- IS NULL and IS NOT NULL
- LIKE and wildcard operators
- Aggregate functions: COUNT, SUM, AVG, MIN, MAX
- GROUP BY and HAVING
- CASE WHEN statements
- Handling NULL values using IFNULL and COALESCE
- String functions and date/time functions
- Joins: INNER JOIN, LEFT JOIN, RIGHT JOIN, CROSS JOIN, SELF JOIN
- Subqueries, UNION, UNION ALL
- Views and indexes
- Window functions: ROW_NUMBER, RANK, DENSE_RANK, LEAD, LAG
- Stored procedures introduction
- SQL for business reporting

Practical Activities

- Customer database query practice
- Sales analysis using SQL
- Join-based reporting assignment
- Window function practice
- SQL case study on business data

Module 4: Python Programming for Data Analysis

This module introduces Python from basics and gradually moves into data analysis using Python libraries.

Topics Covered

- Python installation and Google Colab/Jupyter setup
- Variables and data types
- Numbers, strings, booleans
- Lists, tuples, sets, dictionaries
- Operators in Python
- Conditional statements
- Loops: for loop and while loop
- Functions and lambda functions
- Modules and packages
- File handling basics
- Regular expressions basics
- NumPy introduction
- Arrays and numerical operations
- pandas introduction
- Series and DataFrames
- Reading CSV, Excel, and JSON files
- Data selection and filtering

- Data cleaning using pandas
- Missing value handling
- Duplicate handling
- Grouping and aggregation
- Merging and joining datasets
- Data visualization using Matplotlib
- Data visualization using Seaborn
- Exploratory Data Analysis using Python

Practical Activities

- Python basics assignment
- Data cleaning using pandas
- EDA report using Python
- Visualization report
- Business dataset analysis

Module 5: Business Statistics for Analytics

This module builds statistical thinking required for data analysis, dashboards, and machine learning.

Topics Covered

- Importance of statistics in analytics
- Types of data
- Population and sample
- Measures of central tendency: mean, median, mode
- Measures of dispersion: range, variance, standard deviation
- Percentiles and quartiles
- Outlier detection
- Skewness and kurtosis
- Probability basics
- Random variables
- Probability distributions
- Normal distribution
- Standard normal distribution
- Sampling
- Central Limit Theorem
- Confidence interval
- Hypothesis testing introduction
- p-value interpretation
- t-test basics
- Chi-square test basics
- ANOVA basics
- Correlation analysis
- Business interpretation of statistical results

Practical Activities

- Descriptive statistics assignment
- Outlier detection practice
- Correlation analysis
- Hypothesis testing case study
- Business statistics report

Module 6: Power BI for Business Intelligence

This module helps learners build interactive dashboards and business intelligence reports using Power BI.

Topics Covered

- Introduction to Power BI
- Power BI Desktop installation
- Power BI interface
- Data sources in Power BI
- Import mode and DirectQuery basics
- Loading Excel, CSV, and database files
- Power Query Editor
- Data cleaning in Power Query

- Removing columns and rows
- Splitting columns
- Merging and appending queries
- Data type conversion
- Creating calculated columns
- Data modeling basics
- Relationships and cardinality
- Filter direction
- Bar, column, line, pie, donut, card, KPI, table, matrix, and map visuals
- Slicers and filters
- Drill-down and drill-through
- Tooltips, bookmarks, and navigation buttons
- Dashboard design principles
- DAX introduction
- Measures vs calculated columns
- SUMX, CALCULATE, FILTER, ALL, RELATED, LOOKUPVALUE
- Time intelligence basics
- Power BI Service introduction
- Publishing reports
- Scheduled refresh basics
- Power BI AI visuals: Q&A, Smart Narrative, Key Influencers

Practical Activities

- Sales dashboard
- HR analytics dashboard
- Finance dashboard
- Power Query cleaning task
- DAX calculation assignment
- Published Power BI report

Module 7: Tableau for Data Visualization

This module introduces learners to Tableau for visual analytics and interactive dashboard creation.

Topics Covered

- Introduction to Tableau
- Tableau Desktop overview
- Tableau Public overview
- Data connections
- Live vs extract connection
- Dimensions and measures
- Discrete vs continuous data
- Worksheets and dashboards
- Shelves and marks card
- Bar chart, stacked bar chart, line chart
- Text table and highlight table
- Scatter plot
- Symbol map and filled map
- Filters and filter types
- Context filters
- Parameters
- Groups, bins, sets, and hierarchies
- Calculated fields
- Basic table calculations
- LOD expressions introduction
- Dual-axis charts
- Donut charts
- KPI cards
- Dashboard actions
- Dashboard formatting
- Publishing to Tableau Public

Practical Activities

- Tableau chart practice
- KPI dashboard
- Parameter-based report

- Tableau public dashboard
- Visual storytelling assignment

Module 8: Machine Learning Fundamentals for Analytics

This module gives learners a practical introduction to machine learning concepts used in analytics.

Topics Covered

- What is machine learning?
- Difference between analytics and machine learning
- Supervised and unsupervised learning
- Train-test split
- Features and target variable
- Regression overview
- Linear regression
- Classification overview
- Logistic regression
- Decision tree basics
- Random forest basics
- Model evaluation metrics
- Accuracy, precision, recall, F1-score
- Confusion matrix
- Clustering overview
- K-means clustering
- Customer segmentation use cases
- Business interpretation of ML outputs

Practical Activities

- Sales prediction model
- Customer churn prediction
- Classification model assignment
- Customer segmentation mini-project

Module 9: AI Tools for Data Analysts

This module helps learners use AI tools responsibly to improve speed, productivity, and quality in analytics work.

Topics Covered

- Introduction to Generative AI
- ChatGPT, Gemini, and Claude for analytics
- Prompt engineering basics
- Writing prompts for data cleaning
- Writing prompts for SQL query generation
- AI-assisted Excel formula generation
- AI-assisted Python debugging
- AI-assisted dashboard planning
- AI-assisted report writing
- AI-assisted business insight generation
- AI for explaining charts and trends
- AI for executive summary writing
- AI limitations and hallucination risks
- Validating AI-generated outputs
- Ethical use of AI in analytics

Practical Activities

- Prompt library for data analysts
- AI-assisted SQL assignment
- AI-generated dashboard story
- AI-powered business report
- Manual validation of AI output

Module 10: Capstone Project

The final module focuses on applying all learned skills through an end-to-end project.

Topics Covered

- Select a business problem
- Understand the dataset
- Clean and transform data
- Perform exploratory data analysis
- Write SQL queries
- Create a dashboard in Power BI or Tableau
- Add Python-based analysis if required
- Generate business insights
- Prepare final report
- Present project to mentor panel

Practical Activities

- Sales performance analytics dashboard
- HR attrition analysis
- Customer churn prediction
- E-commerce revenue dashboard
- Marketing campaign analytics
- Finance and expense analysis
- Customer segmentation analytics

ASSESSMENTS THROUGHOUT THE PROGRAM

Excel Tasks	SQL Tasks	Python Assignments	Dashboard Submission	Analytics Report	Final Capstone

CAPSTONE PROJECT EXAMPLES

Sales Performance Dashboard Analyze sales trends, regions, products, and revenue KPIs.	**HR Attrition Analysis** Study employee attrition, performance, and engagement patterns.	**Customer Churn Prediction** Identify at-risk customers and build churn insights.	**Marketing Campaign Analysis** Measure ROI, channel performance, and conversion metrics.

Certificate Eligibility

- Minimum 90% live-class attendance expected
- Minimum 80% assignment/project completion expected
- No pending course fee dues
- Compliance with LMS usage rules and program policies
- Final capstone/project submission and review, wherever applicable

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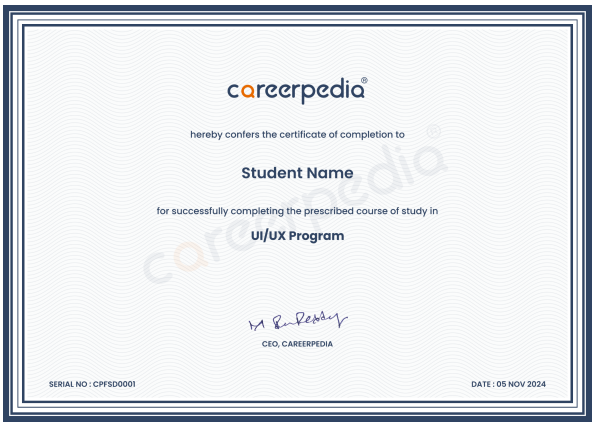
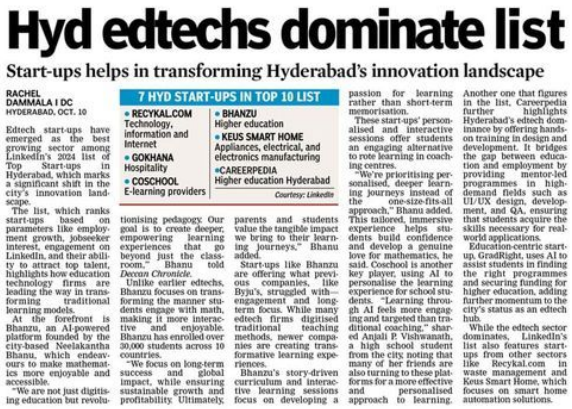
RECOGNITION, CERTIFICATE & ECOSYSTEM

The following page can be used as a credibility page in the candidate-facing brochure. It includes the sample certificate format, the startup recognition article, and the partner ecosystem references shared for Careerpedia.

Certificate Preview	News Article / Recognition
	

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Final Program Notes

- The course duration is 4 months of online live training.
- LMS access may be provided for up to 1 year for recordings, assignments, notices, and selected learning resources.
- Certificates are issued subject to attendance, assignment/project completion, fee clearance, and compliance with program rules.
- Careerpedia is an edtech and upskilling platform. It does not guarantee placement, employment, internship, interview calls, or salary outcome.