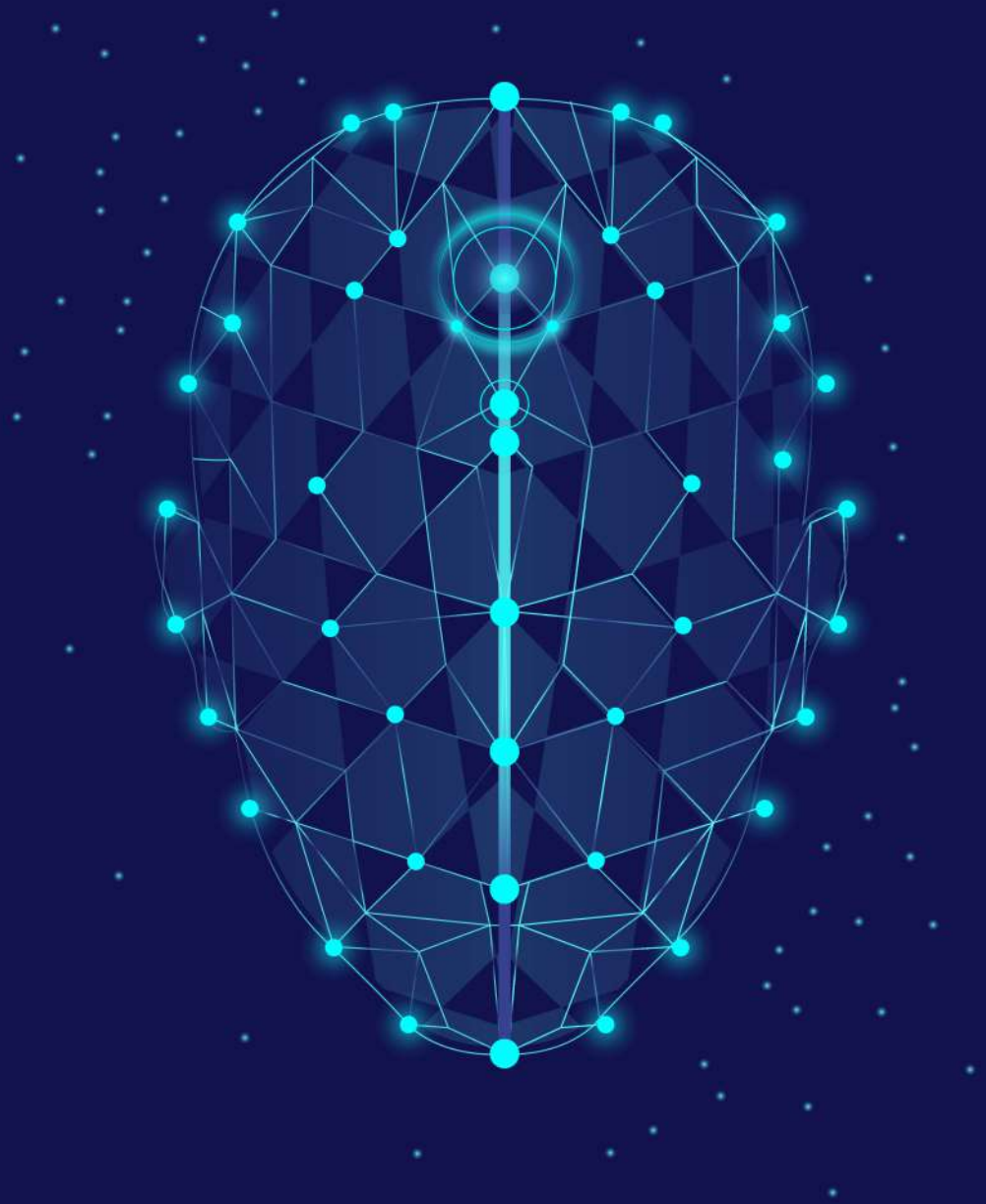
Quality Thought

Transforming Dreams! Redefining Future!

Celebrating 16 Years

A gateway to Your Bright Future



DATA ANALYST

Introduction to Data Analytics

- Need for Data Analytics
- Foundation of Data Analytics
- What is Business Intelligence
- What is Data Analysis, Data Mining, and Machine Learning
- Analytics vs Data Analytics
- Value Chain
- Types of Analytics
- Lifecycle Probability
- Analytics Project Lifecycle

Data

- Basis of Data Categorization
- Types of Data
- Data Collection Types
- Forms of Data and Sources
- Data Quality, Changes and Data Quality Issues, Quality Story
- What is Data Architecture
- Components of Data Architecture
- OLTP vs OLAP
- How is Data Stored?

Python

- Python Installation
- Jupyter Notebook Tutorial
- Variable
- Function
- Lambda Expression
- Loops
- List
- Tuple
- Set
- Dictionary

Fundamentals Of Python

- Anaconda Installation,Introduction to python,Data types,Opearators
  - ⇨ Variables,data types(integer,Boolean,Float,List,tuple,string),Opearators in python
- Data types Contd,Slicing the data,Inbuilt functions in python
  - ⇨ Dictionaries,Sequence methods,Concatenate,Repetition,len,min,max functions,Index position,Addition and deletion of elements,Reverse,Sorting
- Sets,Set Theory,Regular Expressions,Decision making statements
  - ⇨ Sets,re module(findall,search,split,match),if,elifGetting input from user,Identity Operators
- Loops,Functions,Lambda functions,Modules
  - ⇨ For,While loops,Functions,Lambda functions,Math module,Calender module,Date & time module
- Pandas,Numpy,Matplotlib,Seaborn
  - ⇨ Data frame creation using different methods,Using Pandas anlysis on Universities,Salary data sets, Visualization using Matplotlib and Seaborn,Numpy introduction

Advance Python

- Introduction to Numpy
- Creating Arrays
- Selection and Indexing
- Basic Operations on Arrays
- Mathematical Operation on Arrays
- Linear Algebra Operation on Arrays
- Stacking Arrays
- Data Types and Type Conversion
- Introduction to Pandas
- Creating Data Frames
- Reading and Writing Operation
- Selection and Indexing
- Conditional Selection
- Groupby
- Pivot Table
- Merge
- Join
- Concat
- Missing Value Treatment
- Drop Duplicates
- Dealing with Date Time Data
- Introduction to Series
- Series Operation
- Pandas Builtin Functions for Data Visualisation

Data Base - SQL

Introduction to sql

- Introduction to Databases
- Introduction to RDBMS
- Explain RDBMS through normalization
- Different types of RDBMS
- Software Installation(MySQL Workbench)

SQL Commands and Data Types

- Types of SQL Commands (DDL,DML,DQL,DCL,TCL) and their applications
- Data Types in SQL (Numeric, Char, Datetime)

DQL & Operators

- SELECT
- LIMIT
- DISTINCT
- WHERE AND
- OR
- IN
- NOT IN
- BETWEEN
- EXIST
- ISNULL
- IS NOT NULL
- Wild Cards
- ORDER BY

Case When Then and Handling NULL Values

- Usage of Case When then to solve logical problems & handling NULL Values (IFNULL, COALESCE)

Group Operations & Aggregate Functions

- Group By
- Having Clause
- COUNT
- SUM
- AVG
- MIN
- MAX
- COUNT String Functions
- Date & Time Function

Constraints

- NOT NULL
- UNIQUE
- CHECK
- DEFAULT
- Primary key
- Foreign Key (Both at column level and table level)

Joins

- Inner
- Left
- Right
- Cross
- Self Joins
- Full outer join

DDL

- Create
- Drop
- Alter
- Rename
- Truncate
- Modify
- Comment

DML & TCL Commands

DML

- Insert
- Update & Delete

TCL

- Commit
- Rollback
- Savepoint
- Data Partitioning

Indexes and Views

- Indexes (Different Type of Indexes)
- Views in SQL

Stored Procedures

- Procedure with IN Parameter
- Procedure with OUT parameter
- Procedure with INOUT parameter

Function, Constructs

- User Define Function
- Window Functions
- Rank
- Dense Rank
- Lead
- Lag
- Row_number

Union, Intersect, Sub-query

- Union, Union all
- Intersect
- Sub Queries, Multiple Query

Exception Handling

- Handling Exceptions in a query
- CONTINUE Handler
- EXIT handler

Triggers

- Triggers - Before | After DML Statement

Reporting Tool (Power BI)

Power BI Introduction and Installation

- Understanding Power BI Background
- Installation of Power BI and check list for perfect installation
- Formatting and Setting prerequisits
- Understanding the difference between Power BI desktop & Power Query

The Power BI user interface, including types of data sources and visualizations

- Getting familiar with the interface BI Query & Desktop
- Understanding type of Visualisation
- Loading data from multiple sources
- Data type and the type of default chart on drag drop.
- Geo location Map integration

·Sample dashboard with Animation Visual

- Finanical sample data in Power BI
- Preparing sample dashboard as get started
- Map visual Types and usages in different variation
- Understanding scatter Plot chart with Play axis and the parameters

Power BI artificial intelligence Visual

- Understanding the use of AI in power BI
- AI analysis in power bi using chart
- Q&A chat bot and the use in real life
- Hirarchy tree

Power BI Visualization

- Understanding Column Chart
- Understanding Line Chart
- Implementation of Conditional formating
- Implementation of Formating techniques

Power Query Editor

- Loading data from folder
- Understanding Power Query in detail
- Promote header, Split to limiter, Add columns, append, merge queries etc

Modelling with Power BI

- Loading multiple data from different format
- Understanding modelling (How to create relationship)
- Connection type, Data cardinality, Filter direction
- Making dashboard using new loaded data

Power Query Editor Filter Data

- Power Query Custom Column & Conditional Column
- Manage Parameter
- Introduction to Filter and types of filter
- Trend analysis, Future forecast

Customize the data in Power BI

- Understanding Tool tip with information
- Use and understanding of Drill Down
- Visual interaction and customisation of visual interaction
- Drill through function and usage
- Button triggers
- Bookmark and different use and implementation
- Navigation buttons

Dax Expressions

- Introduction to DAX
- Table Dax, Calculated column, DAX measure and difference
- Eg:- Calendar, Calendar auto, Summarize, Group by etc
- Calculated Column
- Related, Lookup value, switch, Datedif,Rankx,Date functions
- Dax Measure and Quick Measure
- Remove filters, Keep filters, All, Allselected, Time Intelligence Functions,Rolling average,YoY, Running total

Custom Visual

- Custom visual and understanding the use of custom
- Loading custom visual, Pinning visual
- Loading to template for future use
- Publishinhg Power Bi

Power BI Service

- Introduction to app.powerbi.com
- Schedule refresh
- Data flow and use power bi from online
- Download data as live in power point and more

Visualization

- Introduction To Plotly
- Scatter Plot
- Line Plot
- Scatter Matrix
- Box Plot
- Bar Chart
- Histogram
- Sun Burst Chart
- Create DashBoard

Statistics

- Central Limit Theorem
- Measure of Dispersion
- Quartiles
- Inter Quartile Ranges
- Variance
- Standard Deviation
- Z Score
- Normal Distribution
- Pearson Correlation Coefficient- R
- R Square
- Multi Colinearity Detection Techniques
- Multi Colinearity Removal Techniques
- Outliers Detection and Removal

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MS-Excel

Introduction

- MS office Versions(similarities and differences)
- Interface(latest available version)
- Row and Columns
- Keyboard shortcuts for easy navigation
- Data Entry(Fill series)
- Find and Select
- Clear Options
- Ctrl+Enter
- Formatting options(Font,Alignment,Clipboard(copy, paste special))

Referencing, Named ranges,Uses,Arithemetic Functions

- Mathematical calculations with Cell referencing(Absolute,Relative,Mixed)
- Functions with Name Range
- Arithmetic functions (SUM,SUMIF,SUMIFS,COUNT,COUNTA,COUNTIFS,
- AVERAGE,AVERAGEIFS,MAX,MAXIFS,MIN,MINIFS)

Logical Functions

- Logical functions:IF,AND,OR,NESTED IFS,NOT,IFERROR
- Usage of Mathematical and Logical functions nested together

Referring data from different tables: Various types of Lookup, Nested IF

- Lookup
- Vlookup
- Nested Vlookup
- Hlookup
- Index
- Index With Match Function
- Indirect
- Offset

Advanced Functions

- Combination of Arithmatic
- Logical
- Lookup functions
- Data Validation(with Dependent drop down)

Date and Text Functions

- Date Functions: DATE,DAY,MONTH,YEAR,YEARFRAC,DATEDIFF,EOMONTH
- Text Functions: TEXT,UPPER,LOWER,PROPER,LEFT,RIGHT,SEARCH,FIND,MID,TTC, Flash Fill

Data Handling::Data cleaning, Data type identification, Remove Duplicates, Formatting and Filtering

- Number Formatting(with shortcuts)
- CTRL+T(Converting into an Excel Table)
- Formatting Table
- Remove Duplicate
- SORT
- Advanced Sort
- FILTER
- Advanced Filter

Data Visualization: Conditional Formatting, Charts

- Conditional formatting (icon sets/Highlighted colour sets/Data bars/custom formatting)
- Charts: Bar,Column,Lines,Scatter,Combo,Gantt,Waterfall,pie

Data Summarization: Pivot Report and Charts

- Pivot Reports:Insert,Interface,Crosstable Reports;Filter,Pivot Charts
- Slicers: Add,Connect to multiple reports and charts
- Calculated field, Calculated item

Data Summarization: Dashboard Creation, Tips and Tricks

- Dashboard:Types,Getting reports and charts together, Use of Slicers.
- Design and placement: Formatting of Tables,Charts,Sheets,Proper use of Colours and Shapes

Connecting to Data: Power Query, Pivot, Power Pivot within Excel

- Power Query: Interface, Tabs
- Connecting to data from other excel files, text files, other sources
- Data Cleaning
- Transforming
- Loading Data into Excel Query

Connecting to Data: Power Query, Pivot, Power Pivot within Excel

- Using Loaded queries
- Merge and Append
- Insert Power Pivot
- Similarities and Differences in Pivot and Power Pivot reporting
- Getting data from databases, workbooks, webpage

Generative AI and its Industry Applications Topics

- Generative AI Principles Types of Generative Models
- Applications of Generative Models Machine Learning Algorithms with GenAI Applications of Generative AI
- Generative AI: Advantages and Disadvantages Ethical Considerations

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ChatGPT

Introduction to ChatGPT and AI

- What is ChatGPT?
- The history of ChatGPT
- Applications of ChatGPT
- ChatGPT vs other chatbot platforms
- Industries using ChatGPT
- The benefits and limitations of ChatGPT
- Future developments in ChatGPT technology
- Ethical considerations related to ChatGPT and AI

Types of AI and Chatgpt architecture

- What is AI?
- Types of AI
- What is Machine Learning?
- Neural Networks
- Deep Learning
- Natural Language Processing (NLP)
- Computer Vision
- Robotics and AI

ChatGPT Functionalities and Applications

- How does ChatGPT work?
- ChatGPT Functionalities
- Drafting emails and professional communication
- Automating content creation
- Resume and Cover letter creation
- Research and information gathering
- Brainstorming ideas and creative problem solving
- Best Practices for Using ChatGPT

ChatGPT Prompt Engineering

- What is Prompt Engineering?
- Types of Prompts
- Crafting Effective Prompts
- Using ChatGPT to generate prompt

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Data Analyst Projects

Analysis Of Patient Data (Domain: Healthcare)

This project requires learners to analyze the patient data of those suffering from different diseases across various summaries. The facility, chain organizations, and dialysis stations analysis is required to be carried out where the patients are undergoing dialysis. The project also focuses on the payment mode aspect wherein if any discounts or reduction in payments have happened then those are analyzed.

Loan Of Customers (Domain: Banking And Finance)

In this project, learners analyze the loan given by a financial institution to different customers of varied grades and sub-grade levels. The analysis needs to consider the loan disbursement reasons, funded amount, and revolving balance values for every customer in different states and geolocations. The project requires the customers payment modes and the last payment values.

Employee Retention (Domain: HR Analytics)

This HR-related project considers the attrition rate of employees working at an organization at different levels. The attrition rate analysis is done with respect to different factors such as monthly income, last promotion year, job role, and work-life balance of every employee of different departments

Industrial Combustion Energy Use (Domain: Energy)

The project requires learners to analyze the usage of different fuels in different facilities in different applications by finding the MMBTu and GWHt values. The fuels used for different geo-locations and for different primary titles are also taken into consideration while doing analysis.

Flights Delay Analysis (Domain: Aviation)

The primary aim of the project is to determine the different reasons behind the delay of flights of various airlines. The analysis needs to consider the number of flights in operation, the number of flights cancelled, and the statistical summary of week-wise, state-wise, and city-wise flight distributions.

Olist Store Analysis (Domain: Ecommerce)

The market for a certain product is analyzed by considering a particular retail outlet which sells these products. The project involves statistical analysis on the payment distribution from different customers with the different modes of transactions across different product categories. The feedback from customers with respect to shipping days and other factors also needs to be considered while carrying out the analysis.

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Our Students Are Placed In

TCS · vsoft · Cognizant · Microsoft · ENVISION · Sunseaz Technologies Pvt Ltd · wipro · AVSOFT · amazon

PrimeSoft · statista · Practera · PIERSOFT · KELLTON TECH · Capgemini · KENSIUM · SOLIX · sumtotal · MIRABEL TECHNOLOGIES

VALUEMOMENTUM · PERVACIO · Apollo · LARSEN & TOUBRO · STIC Soft · Aadvi · NOOR · servicenow · ValueLabs · erwin

CyberTech · BLACK KNIGHT · Micron · highradius · HEXAWARE · NextSphere · GLOBAL · splashBI · archents · techforce.ai

Nendrasys · magnasoft · Innominds · High Noon Consulting · JRD SYSTEMS · Medtronic · MAXO · PTW · Uber · techolution

SOLUGENIX · Collabera · iPrism · meslova · {actlogica} · S&P Global · FISSION · SOLIGENIX · TechnoFacts · SAHASYA

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