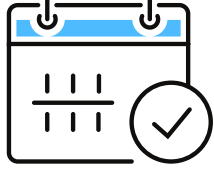


DATA ANALYTICS AND BUSINESS ANALYTICS

For working professionals

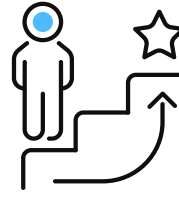


Program Highlights



Flexible batches with 1 year subscription plan

Attend multiple batches from multiple trainers over a period of 1 year. Life time access to recorded sessions.



Analytics Project Management

Live Faculty led Online Training. Project training in multiple domains. 300+ hrs of Interactive classes.



Special attention to non-programmers

Learn python and statistics from scratch. Special classes for non-programmers prior to the batch.



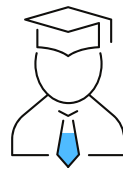
Project Based Learning with Industrial Experts

7+ real time industrial projects and 1 capstone project.

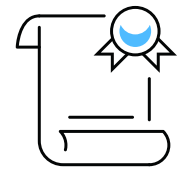
Learnbay offers Data Analytics and Business Analytics Certification Program which is co-developed and **Certified with IBM**. Course features 7+ real world industry projects and capstone projects under the mentor-ship and guidance of Data Analytics and BA experts.



Duration: 5 Months
200+ Hours
Weekday/Weekend



Eligibility: 1+ Year of experience in technical/ non-technical domain



Certification: Get globally certified from IBM in Data Analytics and BA.

Program Details

Who is this program for?

This program is for working professionals having at least 1 year of experience in non-technical background who are looking for a successful career transition in IT domain (Data Analytics and Business Analytics).

Academics:

BBA, BCA, B.COM, M.COM, BE, B.TECH, M.TECH, B.SC, MBA

(Any Branch)

IT/Non-IT

Why to enroll for this program?



Learnbay offers instructor-led interactive program with live doubt solving session as learning from recorded videos can be boring.



Get hands-on experience with 7+ real time projects, as learning data analytics would be incomplete without knowing it's practical approach.



As per the industrial requirement 1 or 2 modules is not sufficient, hence we offer a Full Stack program specially crafted for working professionals.



Get 1:1 doubt clearing session with expert after your live class. Flexibility to batches, get back up classes and attain session from multiple instructors.

Program Details

What you will learn?

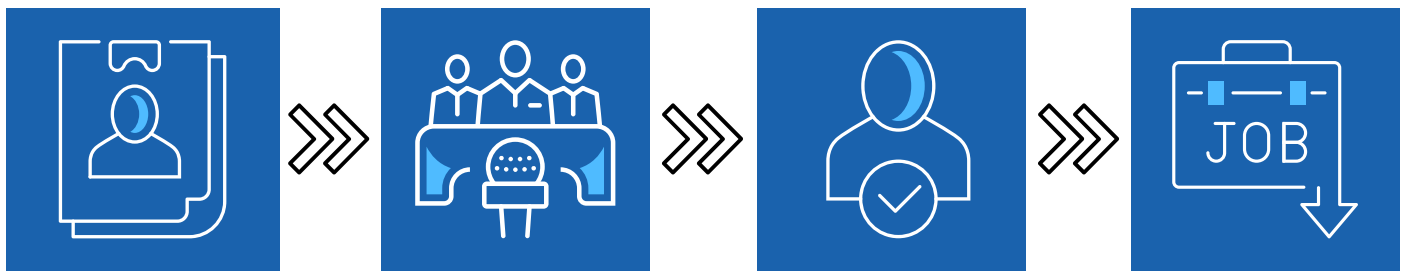


Predictive Analytics using Python, Statistics, Data Visualization, Advance Excel, and 2 other tools.



1 Capstone Project and 7+ Real-time projects from multiple domains help you to showcase practical skills to the recruiter and get your dream job.

Job Assistance



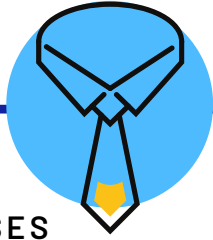
After completing the course, the first thing to do is prepare yourself for interviews during [Resume Build-Up Session](#) and [Mock Interviews](#) under the mentor-ship of Industrial Experts.

Get Interview calls and Referrals from [top MNC's and Startups](#).

Get placed by adding [top Data Analytics and BA skills](#) with [IBM Global Certificate](#) and [Industrial Projects](#) from various domains.

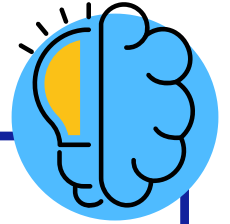
Finally, you have reached your dream job. [Data Analyst, Product Analyst, Business Analyst, etc.](#)

How does it works?



ADVANCE PREP CLASSES

From the ground up, learn python and statistics. Prior to the batch, there are special workshops for non-programmers led by Industrial Experts.



GET TO KNOW ANALYTICS IN-DEPTH

Win the dream career by being a specialist in Predictive Analytics using Python, Statistics, Data Visualization, Advance Excel, and 2 other tools.

INDUSTRIAL WORK ZONE

Get to know your fellow learners by exchanging your professional experience and thoughts, and become a member of the industrial community.



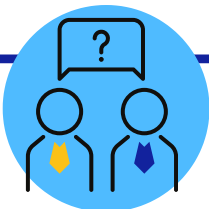
ONLINE QUIZ

Practice Data Analytics and Business Analytics tools which will help you to crack interviews in product-based companies.



1:1 DOUBT CLEARING SESSION

Get your doubts resolved from multiple Industrial Experts with 1:1 session

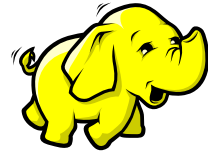
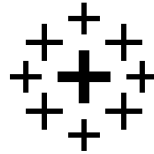


BE FLEXIBLE

Get 1 year of flexible subscription and attain multiple batches from multiple trainers. Access to recorded sessions for life-time.



Modules & Tools



Term 1

Programming Language (Python & R)

45 hours

Term 2

Advance Excel + Statistics with R + Time Series & Forecasting + 2 Projects

70 hours

Term 3

Data Bases (Sql + Mongodb) + Data Visualization (Tableau & PowerBI) + 2 real time project's

62 hours

Term 4

Resume Sessions + Mock Interview Sessions + Projects

15 hours

Module 1 | Python | 35 Hours

Chapter 1: Introduction to Programming (3 hrs)

What is a programming language ?
Source code Vs bytecode Vs machine code
Compiler Vs Interpreter
C/C++, Java Vs Python

Chapter 2: Jupyter notebook basics (1 hrs)

Different type of code editors in python
Introduction to Anaconda and jupyter notebook
Flavours of python.

Chapter 4: Statistics basics (2 hrs)

Introduction to statistics
Mean, median, mode, Standard deviation, Average
Introduction to probability, permutations and combinations
Introduction to linear Algebra

Chapter 3: Python Programming Basics (2 hrs)

Variable Vs identifiers Vs strings
Operators Vs operand
Procedure oriented Vs modular programming

Chapter 5: Git and GitHub (2 hrs)

Learn the key concepts of the Git source control system
Step through the entire basic Git workflow
Configure SSH for authentication
Create and use a remote repository on GitHub
Git Overview
Set up & configuration
Working with git locally

[NOTE]

This module 0 is for those who are from non-technical background like Mechanical, BBA, MBA, B.Com, M.Com, etc.

Or for those who work in Non-IT sectors to get in-depth knowledge of programming and how to use it in Data Science.

Module 1 | Python | 35 Hours

1. Programming Basics & Environment Setup

Installing Anaconda, Anaconda Basics and Introduction

Get familiar with *version control, Git and GitHub*.

Basic Github Commands.

Introduction to Jupyter Notebook environment. Basics Jupyter notebook Commands.

2. Python Programming Overview

Writing your First Python Program

Lines and Indentation, Python Identifiers

Various Operators and Operators

Precedence

Getting input from User, Comments, Multi line Comments.

4. Python Data Types

List, Tuples, Dictionaries

Python Lists, Tuples, Dictionaries

Accessing Values, Basic Operations

Indexing, Slicing, and Matrixes

Built-in Functions & Methods

Exercises on List, Tuples And Dictionary

Class hands-on :

- *Program to convert tuple to dictionary*
- *Remove Duplicate from Lists*
- *Python program to reverse a tuple*
- *Program to add all elements in list.*
- *+ 3 more programs to be covered in class*

Class hands-on :

6 programs/coding exercise on string, loop and conditions in classroom

3. Strings, Decisions And Loop Control

Working With Numbers, Booleans and Strings, String types and formatting, String operations

Simple if Statement, if-else Statement if-elif Statement.

Introduction to while Loops.

Introduction to for Loops, Using continue and break.

5. Functions And Modules

Introduction To Functions – Why

Defining Functions

Calling Functions

Functions With Multiple Arguments.

Anonymous Functions - Lambda

Using Built-In Modules, User-Defined

Modules, Module Namespaces,

Iterators And Generators

Class hands-on :

8+ Programs to be covered in class from functions, Lambda, modules, Generators and Packages.

6. File I/O And Exceptional Handling and Regular Expression

open Function, file Object Attributes close() Method ,Read,write,seek.

Exception Handling, try-finally Clause

Raising an Exceptions, User-Defined Exceptions

Regular Expression- Search and Replace, Modifiers, Patterns, re module

Class hands-on :

10+ Programs to be covered in class from File IO, Reg-ex and exception handling.

7. Data Analysis Using Numpy And Pandas

Introduction to **Numpy**. Array Creation, Printing Arrays, Basic Operation - Indexing, Slicing and Iterating, Shape Manipulation - Changing shape, stacking and splitting of array Vector stacking, Broadcasting with Numpy, *Numpy for Statistical Operation*.

Pandas : Introduction to Pandas Importing data into Python Pandas Data Frames, Indexing Data Frames , Basic Operations With Data frame, Renaming Columns, Subletting and filtering a data frame.

8. Data Visualisation using Python: Matplotlib and Seaborn

Matplotlib:

Introduction, plot(), Controlling Line Properties, Subplot with Functional Method, Multiple Plot, Working with Multiple Figures, Histograms

Seaborn :

Intro to Seaborn And Visualizing statistical relationships , Import and Prepare data .Plotting with categorical data and Visualizing linear relationships Seaborn Exercise



Module 2 | R Programming | 10 Hours

1. R programming

- Installing R and R Studio
- Setting up the environment
- R Datatypes, Operators, Variables
- Coercion rules in R
- Functions and arguments
- Matrices
- Data Frame
- Constants
- Data Inputs and Outputs with R
- Vectors and Vector operation
- Advanced Visualization
- Using the script vs. using the console

3. Visualization in R

- Introduction to ggplot2
- Building a histogram with ggplot2
- Building a bar chart with ggplot2
- Building a box and whiskers plot with ggplot2
- Building a scatterplot with ggplot2
- Low Level Plotting
- Timeseries Plots
- Bar Plot & Density Plot
- Combining Plots
- MatPlot, ECDF & BoxPlot with IRIS
- Data set
- QPlot, ViolinPlot, Statistical Methods & Correlation Analysis
- Set.Seed Function & Preparing Data for Plotting

Using `apply()`, `lapply()`, `sapply()` with `[]`, `sapply()`, `which.max()` and `which.min()`

2. Data Manipulation

- Vector Manipulation & Sub Setting
- List Manipulation, Sub Setting & Merging
- Matrix Manipulation, rep fn & Data Frame
- Data transformation with R - the Dplyr package
- Sampling data with the Dplyr package
- Using the pipe operator in R
- Tidying data in R - `gather()` and `separate()`
- Tidying data in R - `unite()` and `spread()`
- Melting & Casting
- String Manipulation with Stringi Package
- Data Definition Language Commands
- Data Manipulation Language Commands

4. Data Preparation

- How to handle Missing Data
- Data Filtering using `is.na()` and `which()`
- Resetting the dataframe index
- Replacing Missing Data
- Median Imputation Method
- Factual Analysis Method
- Deriving Values Method

Visualizing results in R

Module 2 | Statistics with R | 20 Hours

1. Fundamentals of Math and Probability

Basic understanding of linear algebra, Matrices, vectors
Addition and Multiplication of matrices
Fundamentals of Probability
Probability distributed function and cumulative distributed function.

Class Hand-on

Problem solving using R for vector manipulation
Problem solving for probability assignments

3. Inferential Statistics

What is inferential statistics
Different types of Sampling techniques. Central Limit Theorem
Point estimate and Interval estimate
Creating confidence interval for population parameter. Characteristics of Z-distribution and T-Distribution
Basics of Hypothesis Testing
Type of test and rejection region
Type of errors in Hypothesis testing, Type-I error and Type-II errors
P-Value and Z-Score Method
T-Test, Analysis of variance(ANOVA) and Analysis of Co variance(ANCOVA)
Regression analysis in ANOVA

Class Hands-on:

Problem solving for C.L.T
Problem solving Hypothesis Testing
Problem solving for T-test, Z-score test. Case study and model run for ANOVA, ANCOVA

2. Descriptive Statistics

Describe or summarize a set of data
Measure of central tendency and measure of dispersion. The mean, median, mode, kurtosis and skewness. Computing Standard deviation and Variance. Types of distribution.

Class Handson:

5 Point summary BoxPlot
Histogram and Bar Chart
Exploratory analytics R Methods

4. Data Processing & Exploratory Data Analysis

Introduction to Data Cleaning
Data Pre-processing
What is Data Wrangling? How to Restructure the data? What is Data Integration? Data Transformation
EDA : Finding and Dealing with Missing Values. What are Outliers? Using Z-scores to Find **Outliers**. Introduction to Bivariate Analysis, Scatter Plots and Heatmaps. Introduction to Multivariate Analysis

5. Hypothesis Testing

Hypothesis Testing
Basics of Hypothesis Testing
Type of test and Rejection Region
Type of errors-Type 1 Errors, Type 2 Errors. P value method, Z score Method. The Chi-Square Test of Independence Regression. Factorial Analysis of Variance. Pearson Correlation Coefficients in Depth
Statistical Significance, Effect Size, and Confidence Intervals

Module 3 | Time Series & Forecasting | 15 Hours

1. What is Time Series & Forecasting

Introduction

Forecasting model creation

Time Series - Basic Notations

Graphical Displays

Numerical Description of Time Series

Data

Feature Engineering Basics

Resampling

Use of Data Transformations and Adjustments

General Approach to Time Series

Modeling and Forecasting, Evaluating and Monitoring Forecasting Model

Performance

White Noise

Differencing

Random Walk

Basic Properties

Linear Processes

Introduction to ARIMA Processes

SARIMA model

Test Train Split

Auto Regression Model

Spectral Analysis

Nonstationary and Seasonal Time Series Models

Multivariate Time Series

State-Space Models

Forecasting Techniques

The ARAR Algorithm

The Holt-Winters Algorithm

The Holt-Winters Seasonal Algorithm

Choosing a Forecasting Algorithm

Introduction to Neural Networks

Creating Perceptron model

Gradient Descent

Back Propagation

Hyperparameters

Transfer Function Models

Intervention Analysis

Long-Memory Models

Random Variables and Probability Distributions

Distribution Functions and Expectation

Random Vectors

The Multivariate Normal Distribution

Mean Square Convergence

Module 3 | Excel | 30 Hours

1. Basics

- Creating a New Workbook
- Navigating in Excel
- Moving the Cell Pointer
- Using Excel Menus
- Using Excel Toolbars: Hiding, Displaying, and Moving Toolbars
- Entering Values in a Worksheet and Selecting a Cell Range
- Previewing and Printing a Worksheet
- Saving a Workbook & Re-opening a saved workbook

2. Formatting a Worksheet

- Creating Headers, Footers, and Page Numbers
- Adjusting Page Margins and Orientation
- Adding Print Titles and Gridlines, rows to repeat at top of each page
- Formatting Fonts & Values
- Adjusting Row Height and Column Width
- Changing Cell Alignment
- Adding Borders
- Applying Colors and Patterns
- Using the Format Painter
- Merging Cells, Rotating Text
- Using Auto Fill

3. Managing your workbooks

- Switching Between Sheets in a Workbook
- Inserting and Deleting Worksheets
- Renaming and Moving Worksheets
- Protecting a Workbook
- Hiding Columns, Rows and Sheets
- Splitting and Freezing a Window
- Inserting Page Breaks
- Advanced Printing Options

4. Editing a Workbook

- Entering Date Values and using AutoComplete
- Editing, Clearing, and Replacing Cell Contents Cutting, Copying, and Pasting Cells Moving and Copying Cells with Drag and Drop
- Collecting and Pasting Multiple Items
- Using the Paste Special Command
- Inserting and Deleting Cells, Rows, and Columns
- Using Undo, Redo, and Repeat Checking Your Spelling
- Finding and Replacing Information
- Inserting Cell Comments

5. Formulas

- Creating a basic Formula
- Cell Referencing
- Calculating Value Totals with AutoSum
- Editing & Copying Formulas
- Fixing Errors in Your Formulas
- Formulas with Several Operators and Cell Ranges
- Conditional Formatting

Working with the Forms Menu

- Sorting, Subtotaling & Filtering Data
- Copy & Paste Filtered Records
- Using Data Validation

Module 3 | Excel | 30 Hours

6. Creating & Working with Charts

Creating a Chart

Moving and Resizing a Chart

Formatting and Editing Objects in a Chart

Changing a Chart's Source Data

Changing a Chart Type and Working with Pie Charts

Adding Titles, Gridlines, and a Data Table

Formatting a Data Series and Chart Axis

Using Fill Effects

7. Data Analysis & Pivot Tables

Creating a PivotTable

Specifying the Data a PivotTable Analyzes

Changing a PivotTable's Calculation

Selecting What Appears in a PivotTable

Grouping Dates in a PivotTable

Updating a PivotTable

Formatting and Charting a PivotTable

Automating Tasks with Macros

Recording a Macro

Playing a Macro and Assigning a Macro a Shortcut Key



Module 4 | SQL & MongoDB | 24 Hours

1. RDBMS And SQL Operations :

Introduction To RDBMS

Single Table Queries -

SELECT, WHERE, ORDER

BY, Distinct, And ,OR

Multiple Table Queries: INNER, SELF,

CROSS, and OUTER, Join, Left Join,

Right Join, Full Join, Union

Advance SQL Operations:

Data Aggregations and summarizing
the data

Ranking Functions: Top-N Analysis

Advanced SQL Queries for Analytics

2. NoSQL Databases :

Topics - What is HBase?

HBase Architecture, HBase

Components,

Storage Model of HBase,

HBase vs RDBMS

Introduction to Mongo DB, CRUD

Advantages of MongoDB over RDBMS

Use cases

3. Grouping, Sorting, Aggregating

Count, Distinct, Sum, Min, Max, Avg

Group by, HAVING, Sort, Limit, ORDER
BY, AS

Funnels, YOY revenue, and Sales by
Location

Conditional Statements

Subqueries

VIEWS

INDEXES

6. String Function

LENGTH

REPLACE

UPPER

LOWER

SUBSTRING

CONCATENATION

TRIM, LTRIM, RTRIM

PATTERN MATCHING

REGULAR EXPRESSIONS

4. Mathematical Functions

CEIL & FLOOR, POWER, RANDOM

ROUND, SETSEED

5. Date & Time Functions

CURRENT DATE & TIME, EXTRACT, AGE

5. Basics and CRUD Operation :

Databases, Collection & Documents

Shell & MongoDB drivers

What is JSON Data

Create, Read, Update, Delete

Working with Arrays

Understanding Schemas and Relations

6. MongoDB :

What is MongoDB?

Characteristics, Structure and
Features

MongoDB Ecosystem

Installation process

Connecting to MongoDB database

What are ObjectIds in MongoDb

Data Formats in MongoDB

MongoDB Aggregation Framework

Aggregating Documents

What are MongoDB Drivers?

Finding, Deleting, Updating,

Inserting Elements

Module 4 | Tableau | 18 Hours

1. Introduction to Tableau :

Connecting to data source
Creating dashboard pages
How to create calculated columns
Different charts
Hands-on :
Hands on on connecting data source
and data cleansing
Hands on various charts

Data Types in Tableau
Aggregation and Granularity
Preattentive Processing
Length and Position
Reference Lines
Parameters
Tooltips
Data Over Time - Tableau
Implementation

2. Visual Analytics :

Getting Started With Visual Analytics
Sorting and grouping
Working with sets, set action
Filters: Ways to filter, Interactive
Filters
Forecasting and Clustering
Hands-on :
Hands on deployment of Predictive
model in visualization

Basic Aggregations and Row Level vs.
View Level Expressions
Basic Calculations vs. Table
Calculations
Fixed vs. Include
Fixed vs. Exclude

3. Dashboard and Stories :

Working in Views with Dashboards and
Stories
Working with Sheets
Fitting Sheets
Legends and Quick Filters
Tiled and Floating Layout
Floating Objects

4. Mapping :

Coordinate points
Plotting Latitude and Longitude
Custom Geocoding
Polygon Maps
WMS and Background Image

Introduction to Dashboards
Navigating a Dashboard
Building the Dashboard
Device Customization
Formatting
Dashboard Creation
Building Stories

Module 4 | Power BI | 20 Hours

1. Getting Started With Power BI :

Installing Power BI Desktop and Connecting to Data
Overview of the Workflow in Power BI Desktop
Introducing the Different Views of the Data Mode
Query Editor Interface
Working on Data Model

Import data from Excel files
Import data from CSV files
Import Real-time Streaming Data
Import from Web
Import data from SQL Server
Import Data from Folder
Import data from OData feed REST-API
Download and Install SQL Server Express
Download and Install Sample Databases
All about Data Flows

4. PowerBI Visuals

Introduction
Visuals-Line Charts
Visuals-Pie Chart
Visuals-Bar Charts
Stacked bar Chart
Clustered Column Chart
Visuals-Combo Chart
Visuals-Treemap Chart
Visuals-funnel Chart
Visuals-Scatter Chart

2. Programming with Power BI :

Working with Timeseries
Understanding aggregation and granularity
Filters and Slicers in Power BI
Maps, Scatterplots and BI Reports
Connecting Dataset with Power BI
Creating a Customer Segmentation Dashboard
Analyzing the Customer Segmentation Dashboard
Waterfall, Map Visualization
Pie and Tree Map
Include and Exclude, Categories with no Data

3. Power Queries

Remove rows and columns
Create calculate columns
Make first row as headers
Change Data type, Replace Values and Rearrange the columns
Remove duplicates
Unpivot columns and split columns
Append Queries
Merge Queries

Visuals-Gauge Card
Visuals-Matrix
Visuals-Table
Visuals-Slicers
Visuals-KPIs
Visuals-Maps
Visuals-Text boxes - Shapes - Images

Module 4 | Power BI | 20 Hours

5. Modelling

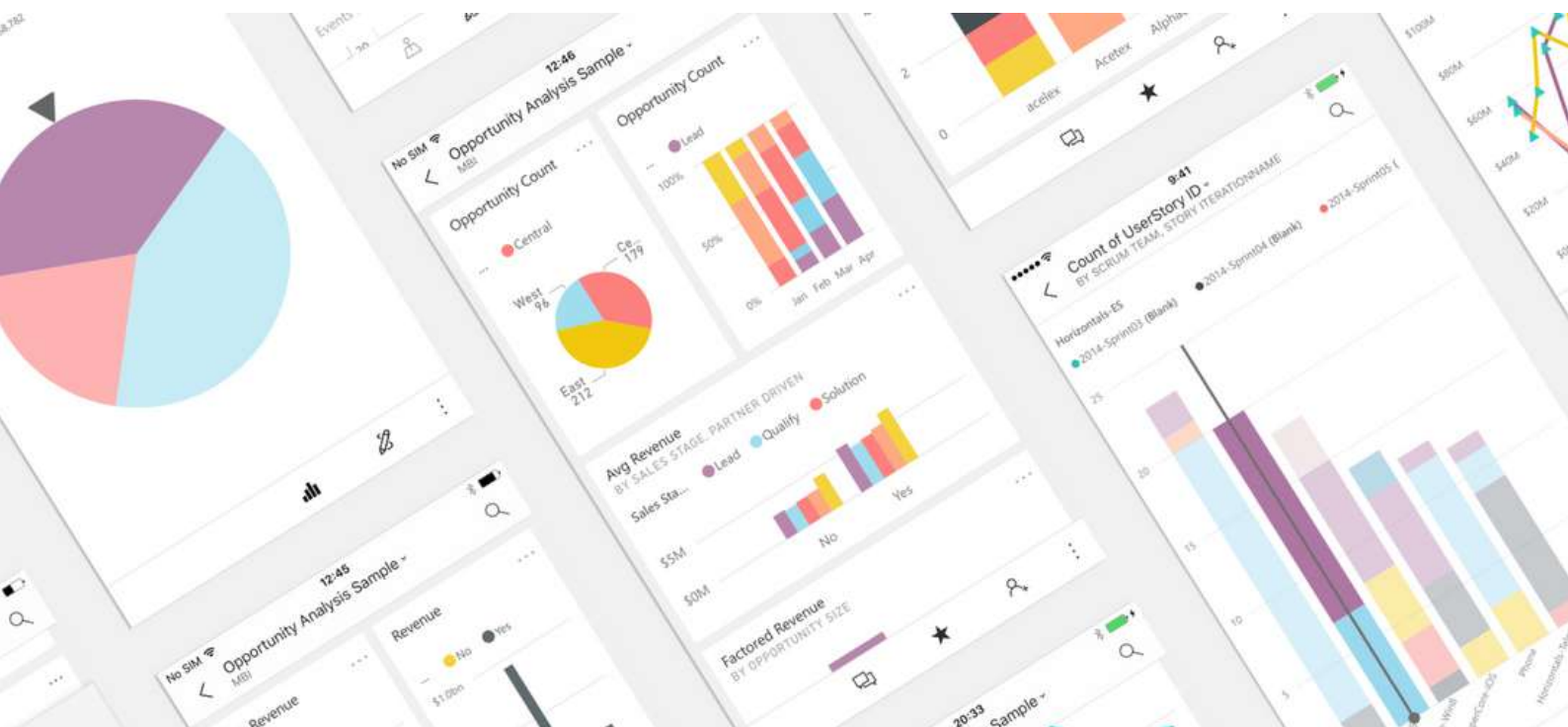
Creating your first report
Modelling Basics to Advance
Modelling and Relationship
Ways of creating relationship
Normalization - Denormalization
OLTP vs OLAP
Star Schema vs Snowflake Schema

7. Time Intelligence

Create Date Table in M
Create Date Table in DAX
Display Last Refresh Date
SAMEPERIODLASTYEAR
TOTALYTD
DATEADD
PREVIOUSMONTH

6. DAX using Power BI

What is Dax
Dax Data Types
Dax Operators and Syntax
Importing Data for Dax Learning
Resources for Dax Learning
M vs Dax
Create a Column
Rules to Create Measures
Calculated Columns vs Calculated Measures
SUM, AVERAGE, MIN, MAX, SUMX,
COUNT, DIVIDE, COUNT,
COUNTRROWS, CALCULATE, FILTER,
ALL



Real time projects



Indian Road Analysis

Find out how much investment is requirement in national highways to meet its economic needs as a part of infrastructural development as the road network of India is second largest road network in The World.

Credit Card Eligibility of Customers

Study how Predictive Analytics will be implemented to evaluate a customer's ability to repay and whether or not they can be given a credit card.



Netflix Movies and TV Shows

Explore what all other insights can be obtained from the list of tv shows and movies available on Netflix. Network analysis of Actors / Directors and find interesting information.

Predictions for app ratings on the Google Play store

Create a model to forecast an app's rating, along with other app-related details to increase the app's exposure.



Real time projects



Smart Supply Chain

A DataSet of Supply Chains used by the company DataCo Global is used for the analysis. It also allows the correlation of Structured Data with Unstructured Data for knowledge generation.

Forecasting Uber Demand

Create an interactive dashboard using Tableau, used to get historical insights into a neighborhood. Ex, see upcoming forecasted demand, increase the accuracy, decrease surge pricing events.



IBM HR Analytics

Applying analytic processes to the human resource department of an organization in the hope of improving employee performance and therefore getting a better return on investment.

Consumer Reviews of Amazon Products

The goal is to analyze Amazon's most successful consumer electronics product launches, discover insights into consumer reviews.



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