

Full-Stack Data Science

Instructors:

Sudhanshu Kumar:

Having 8+ years of experience in Big data, Data Science and Analytics with product architecture design and delivery. Worked in various product and service based Company. Having an experience of 5+ years in educating people and helping them to make a career transition.

krish naik:

Having 10+ years of experience in Data Science and Analytics with product architecture design and delivery. Worked in various product and service based Company. Having an experience of 5+ years in educating people and helping them to make a career transition.

Curriculum:

Welcome to the Course

- Course Overview
- Dashboard Introduction

Python Fundamentals

- Python Basic
- String, List, Indexing
- Tuple, Set & Dict
- If, Else & For Loop
- For Loops & While loops

- Python Program Discussion in loops
- Function Part - 1
- Function Part - 2

Advanced Python

- Iterator Generator & File System
- Exception handling Class 1 part 1
- Exception handling Class 1 part 2
- Exception handling Class 2
- Module & Packages
- OOPS Part 1
- OOPS Part 2
- OOPs Concepts - Polymorphism

Working with Databases & Python

- SQL Part 1
- SQL Part 2
- OOPS Discussion
- Introduction to MongoDB
- Working with Python & MongoDB Part1
- Working with Python & MongoDB Part2
- SQL lite, map, reduce, filter,zip

Working with Pandas & Numpy

- Introduction to Pandas

- Working with Pandas
- Pandas Data Analysis Part 1
- Pandas Data Analysis Part 2
- Pandas and Numpy
- Numpy methods

GUI Programming

- GUI Programming with Tkinter

Working with Graphs & Charts

- Introduction to Graphs & Charts
- Working with Graphs in Python

API

- API Testing

Python Projects

- Flask End to End Project
- Review Scraper
- Image Scraper and deployment on Heroku, AWS and Azure

Statistics

- Introduction to Stats - Day 1
- Stats - Day 2
- Extra doubt session
- Stats - Day 3

- Stats - Day 4
- Stats - Day 5

EDA & Feature Engineering

- Introduction to EDA
- Doubt Clearing session
- EDA and Feature Engineering

Machine Learning

- Linear Regression
- Ridge Lasso Regression, Elastic & Logistic Regression
- Naive Bayes Algorithm and practical implementation of Ridge Lasso and Logistic Regression
- Logistic Practical, SSVM, SVR
- Decision Tree Classification
- Random Forest & SVM
- Adaboost
- Gradient Boosting
- Clustering
- Introduction to Machine learning
- Linear Regression
- Linear Regression live coding demonstration part-1
- Linear Regression live coding demonstration part-2
- Project Admission Prediction, Lasso, Ridge & Elastic Net
- Project deployment in Heroku, Azure & AWS

- Logistic Regression
- Logistic Regression implementation
- Decision Tree
- Decision Tree Part 2 , Ensemble Tech, Random Forest & Boosting
- KNN and SVM
- Decision Tree Practical Implementation
- Decision Tree Live Coding & Grid Search
- Grid Search, Bagging Classifier & Random Forest
- KNN, SVC, SVR & Stacking
- Clustering
- Clustering and PCA
- PCA practical, DBSCAN and Naive Bayes
- XG Boost, NLTK & TF-IDF

Machine Learning End to End Project

- Machine learning project
- Machine learning project
- ML End to End project Pipeline Explanation
- ML Project Explanation along with GitHub and Docker
- Machine Learning Pipelines Live Coding Part-1
- Machine Learning Pipelines Live Coding Part-2
- 2nd July Live Class
- Machine Learning Pipelines Live Coding Part-2
- Revision Class
- Model training, evaluation and push

- Model training, evaluation and push
- Revision

PCA in ML

- PCA
- PCA Implementation

NLP for Machine Learning

- NLP in ML
- Spam Classification

Time Series Analysis

- Introduction to Time Series
- Time Series Implementation

Stats

- Introduction
- Different types of Statistics
- Population vs Sample
- Mean, Median and Mode
- Variance, Standard Deviation
- Sample Variance why $n-1$
- Standard Deviation
- Variables
- Random Variables

- Percentiles & quartiles
- 5 number summary
- Histograms
- Gaussian - Normal distribution
- Standard Normal distribution
- Application Of Zscore
- Basics Of Probability
- Addition Rule In Probability
- Multiplication rule in probability
- Permutation
- Combination
- Log Normal Distribution
- Central Limit theorem
- Statistics - Left Skewed And Right Skewed Distribution And Relation With Mean, Median And Mode
- Covariance
- Pearson And Spearman Rank Correlation
- What is P Value
- What is Confidence Intervals
- How To Perform Hypothesis Testing - Confidence Interval Z Test Statistics Derive Conclusion
- Hypothesis testing part 2
- Hypothesis testing part 3
- Finalizing statistics

ML Projects

- Detailed Project Report explanation
- Project :- Wafer Fault Detection Part 1
- Project :- Wafer Fault Detection Part 2
- Deployment in Heroku using docker and circleci

ML Project 1 :- Fault detection in wafers based on sensor data

- Introduction
- The problem statement and Data Description
- The Application Flow
- Ingestion and Validation Part1
- Validation Part2
- DB Operations
- Data Preprocessing
- Clustering
- Model Selection and Tuning
- Prediction
- Deployment

ML Project 2 :- Cement Strength Prediction

- Introduction
- The Problem Statement and Data Description
- The Application Flow
- Code Intro and Logging
- Validation and Transformation
- DB Operations

- Data Preprocessing
- Clustering
- Model Selection and Tuning
- Prediction
- Deployment

ML Project 3 :- Credit Card Defaulters

- Introduction
- The Problem Statement and Data Description
- The Application Flow
- Code intro and Logging
- Validation and Transformation
- DB Operations
- Data Preprocessing
- Deployment

ML Project 4 :- Forest Cover

- Introduction
- The Problem Statement and Data Description
- Application Flow
- Code intro and Logging
- Validation and Transformation
- DB Operations
- Data Preprocessing
- Clustering

- Model Selection and Tuning
- Prediction
- Deployment

ML Project 5 :- Income Prediction

- Introduction
- The Problem Statement and Data Description
- The Application Flow
- Code intro and Logging
- Validation and Transformation
- DB Operations
- Data Preprocessing
- Clustering
- Model Selection and Tuning
- Prediction
- Deployment

ML Project 6 :- Insurance Fraud Detection

- Introduction
- The Problem Statement and Data Description
- The Application Flow
- Code Intro and Logging
- Validation and Transformation
- DB Operations
- Data Preprocessing

- Clustering
- Model Selection and Tuning
- Prediction
- Deployment
- The Problem Statement and Data Description

ML Project 7 :- Mushroom Classification

- Introduction
- The Application Flow
- Code Intro and Logging
- Validation and Transformation
- DB Operations
- Data Preprocessing
- Clustering
- Model Selection and Tuning
- Predictions
- Deployment

ML Project 8 :- Phishing Classifier

- Introduction
- The Application Flow
- Code intro and Logging
- Validation and Transformation
- DB Operations
- Data Preprocessing

- Clustering
- Model Selection and Tuning
- Prediction
- Deployment

ML Project 9 :- Thyroid Detection

- Introduction
- The Problem Statement and Data Description
- The Application Flow
- Code intro and Logging
- Validation and Transformation
- DB Operation
- Data Preprocessing
- Clustering
- Model Selection and Tuning
- Prediction
- Deployment

ML Project 10 :- Visibility Climate

- Introduction
- The Problem Statement and Data Description
- The Application Flow
- Code intro and Logging
- Validations and Transformation
- DB Operations

- Data Preprocessing
- Clustering
- Model Selection and Tuning
- Prediction
- Deployment

Time Series

- Arima, Sarima, Auto Arima
- Time series using RNN LSTM, Prediction of NIFTY stock price
- Time series using RNN LSTM, Prediction of NIFTY stock price

DL ANN - Introduction

- Introduction to Deep Learning
- Importance of Deep learning
- Why you should study Deep Learning? (Motivation)
- ANN vs BNN
- The first Artificial Neuron

DL ANN - Perceptron

- Overview of Perceptron
- More about Perceptron
- Perceptron implementation using python - 1
- Perceptron implementation using python - 2
- Perceptron implementation using python - 3
- Perceptron implementation using python - 4

- Perceptron implementation using python - 5
- Perceptron implementation using python - 6
- Perceptron implementation using python - 7
- Python scripting & modular coding for Perceptron
- Python logging basics and docstrings
- Python packaging, Github actions, and PyPI

DL ANN -1

- Multilayer Perceptron
- Forward propagation
- Why we need Activation function?
- ANN implementation using tf.keras - 1
- ANN implementation using tf.keras - 2
- ANN implementation using tf.keras - 3
- ANN implementation using tf.keras - 4
- ANN with Callbacks | Tensorboard | Early Stopping | Model Checkpointing

DL ANN - 2

- Vector
- Differentiation
- Partial differentiation
- Maxima and minima concept
- Gradient descent basics
- In-depth understanding of Gradient descent with mathematical proof

DL ANN - 3

- Chain rule
- Back propagation

DL ANN - 4

- General problems in training Neural Networks
- Vanishing and Exploding gradients
- Activation Function Basics
- Weight initialization
- Activation Functions - 1
- Activation functions - 2
- Activation functions - 3
- Transfer learning
- Batch normalization -1
- Batch normalization -2
- Batch normalization -3

DL ANN - 5

- Introduction to fast optimizers
- Momentum optimization
- NAG
- Elongated bowl problem | AdaGrad
- RMSProp
- Adam
- Loss functions

- Regularization
- Dropout

Computer Vision - Introduction

- Introduction to Course
- Course Overview
- Installing Anaconda, Pycharm & Postman
- Working with Conda Envs
- Pycharm Introduction
- Pycharm with Conda
- Pycharm with venv
- Pycharm with Pipenv

Computer Vision - CNN Foundations

- Why CNN? Building an Intuition for CNN
- CNN, Kernels, Channels, Feature Maps, Stride, Padding
- Receptive Fields, Image Output Dimensionality Calculations, MNIST Dataset Explorations with CNN
- MNIST CNN Intuition, Tensorspace.js, CNN Explained, CIFAR 10 Dataset Explorations with CNN
- Dropout & Custom Image Classification Dog Cat Dataset
- Deployment in Heroku, AWS, Azure
- Deployment in GCP, AWS EBS

Computer Vision - CNN Architectures

- LeNet-5

- LeNet-5 Practical
- AlexNet
- AlexNet Practical
- VGGNet
- VGG16 Practical
- Inception
- Inception Practical
- ResNet
- Resnet Practical

Computer Vision - Image Classification Hyper Parameter Tuning

- Keras Tuner
- Building a simple model
- Tuning with Keras Tuner

Computer Vision - Data Augmentation

- What is Data Augmentation?
- Benefits of Data Augmentation
- Exploring Papers like RICAP, Random Erasing, Cutout
- Exploring Augmentor
- Exploring Roboflow

Computer Vision - Object Detection Basics

- What is Object Detection?
- Competitions for Object Detection

- Bounding Boxes
- Bounding Box Regression
- Intersection over Union (IoU)
- Precision & Recall
- What is Average Precision?

Computer Vision - Object Detection Architectures

- Object Detection Family
- RCNN
- RCNN Network Architecture
- Cons of RCNN
- FAST RCNN
- FAST RCNN Network Architecture
- Cons of FAST RCNN
- FASTER RCNN
- FASTER RCNN Network Architecture
- YOLO
- YOLO Architecture
- YOLO Limitations
- SSD
- SSD Network

Computer Vision - Practicals Object Detection using Tensorflow 1.x

- Introduction to TFOD1.x
- Using Google Colab with Google Drive

- Installation of Libraries in Colab
- TFOD1.x Setup in Colab
- Visiting the Model Zoo
- Inferencing in Colab
- Inferencing in Local
- Important Configurations Files
- Webcam Testing

Computer Vision - Practicals Training a Custom Cards Detector using Tensorflow1.x

- Custom Model Training in TFOD1.x
- Our Custom Dataset
- Doing Annotations or labeling data
- Selection of Pretrained Model from Model Zoo
- Files Setup for Training
- Let's start Training in Colab
- Export Frozen Inference Graph
- Inferencing with our trained model in Colab
- Training in Local
- Inferencing with our trained model in Local

Computer Vision - Practicals Creating an Cards Detector Web App with TFOD1

- Code Understanding
- WebApp Workflow
- Code Understanding
- Prediction with Postman

- Debugging our Application

Computer Vision - Practicals Object Detection using Tensorflow 2.x

- Introduction to TFOD2.x
- Using the Default Colab Notebook
- Google Colab & Drive Setup
- Visting TFOD2.x Model Garden
- Inference using Pretrained Model
- Inferencing in Local with a pretrained model

Computer Vision - Practicals Training a Custom Chess Piece Detector using Tensorflow2

- Custom Model training in TFOD2.x
- Our Custom Dataset TF2
- File Setup for Training
- Let's start Training
- Let's start Training
- Stop Training or resume Training
- Evaluating the trained model
- Convert CKPT to Saved Model
- Inferencing using the Custom Trained Model in Colab
- Inferencing using the Custom Trained Model in Local PC

Computer Vision - Practicals Creating an Chess Piece Detector Web App with TFOD2

- Creating a Pycharm project & Environment Setup TF2
- Application Workflow

- Code understanding
- Testing our App with Postman
- Debugging our Application

Computer Vision - Practicals Object Detection using Detectron2

- Introduction to Detectron2
- Detectron2 Colab Setup
- Visiting Detectron2 Model Zoo
- Detectron2 Pretrained Model Inferencing

Computer Vision - Practicals Training a Custom Detector using Detectron2

- Detectron2 Custom Training
- Exploring the Dataset
- Registering Dataset for Training
- Let's start Training
- Inferencing using the Custom Trained Model in Colab
- Evaluating the Model

Computer Vision - Practicals Creating an Custom Detector Web App with Detectron2

- Creating a Pycharm project & Environment Setup Detectron2
- Application Workflow
- Code understanding
- Testing our App with Postman
- Debugging our Application

Computer Vision - Practicals Object Detection using YoloV5

- Introduction to YoloV5
- YoloV5 Colab Setup
- Inferencing using Pre Trained Model

Computer Vision - Practicals Training a Custom Warehouse Apparel Detector using YoloV5

- Custom Training with YoloV5
- Exploring the Dataset
- Doing Annotations or labeling data
- Setting up Google Colab & Drive
- Let's start Training
- Inferencing using the Custom Trained Model in Colab

Computer Vision - Practicals Creating an Warehouse Apparel Detector Web App with YOLOV5

- Creating a Pycharm project & Environment Setup Yolo
- Application Workflow
- Code understanding
- Testing our App with Postman
- Debugging our Application

Computer Vision - Image Segmentation

- Segmentation Introduction
- From Bounding Box to Polygon Masks
- What is Image Segmentation?

- Types of Segmentation
- MASKRCNN
- MASK RCNN Architecture

Computer Vision - MASK RCNN Practicals with TFOD

- Segmentation with TFOD1.x
- Local Setup MASKRCNN
- Exploring the Dataset
- Data Annotation
- Model Selection
- Files Setup for Training
- Model Training
- Export Frozen Inference Graph
- Model Prediction

Computer Vision - MASKRCNN practical with Detectron2

- Introduction to Detectron2
- Detectron2 Colab Notebook
- Exploring the Model Zoo
- Detectron2 Colab Setup
- Custom Training with Detectron2
- Exploring our Dataset
- Data Annotation
- Data Preparation
- Setup for Training

- Let's start Training
- Inferencing using the Custom Trained Model in Colab
- Evaluating the Model

Computer Vision - Face Recognition Project

- Introduction to Project
- Requirement Gathering
- Techstack Selection
- Project Installation
- Project Demo
- Project Workflow
- Core Components of the Application
- Data Collection Module
- Generate Face Embeddings
- Training Face Recognition Module
- Prediction Pipeline
- Entry point of the Application
- Application Workflow
- Debugging our Application

Computer Vision - Object Tracking Project

- Object Tracking project
- Project Installation Tracking
- Project Demo
- Code Understanding

Computer Vision - GANS

- Introduction to GANS
- GAN Architecture
- GAN PRACTICALS Implementation

Computer Vision Project - Traffic Vehicle Detection

- Introduction to Vehicle Detection project
- Requirement Gathering
- Framework Selection
- Detailed Project Workflow
- Data Collection Scrap
- Data Preparation
- Data augmentation augmenter
- Data Annotations
- Model Training
- Creating a Pycharm project & Environment Setup TVD
- WebApp Workflow
- Code Understanding
- Prediction with Postman
- Debugging our Application

Computer Vision Project - Helmet Detection

- Introduction to Helmet Detection project
- Requirement Gathering

- Techstack Selection
- Detailed Project Workflow
- Data Collection
- Data Preparation
- Data Augmentation
- Data Annotations
- Model Training
- Creating a Pycharm project & Environment Setup HD
- WebApp Workflow
- Code Understanding
- Prediction with Postman
- Debugging our Application

Computer Vision Project - Fashion Apparel Detection

- Introduction to Fashion Apparel Detection project
- Requirement Gathering
- Techstack Selection
- Detailed Project Workflow
- Data Collection
- Data Preparation
- Data Augmentation
- Data Annotations
- Model Training
- Creating a Pycharm project & Environment Setup FAD
- Project Demo

- WebApp Workflow
- Code Understanding
- Prediction with Postman
- Debugging our Application

Computer Vision Project - Image TO Text OCR

- Introduction to Project
- Project Installation OCR
- Project Demo
- Application Workflow
- Code Understanding
- Debugging our App
- Different OCR's available

Computer Vision Project - Shredder System

- Introduction to Shredder Systems
- Requirement Gathering
- Techstack Selection
- Data Collection
- Data Augmentation
- Data Preparation
- Data Annotation
- Model Selection from Zoo
- Model Training
- Creating a Pycharm project & Environment Setup SS

- Application Workflow
- Project Demo
- Code Understanding
- Debugging our Application
- Project Workflow
- Project Workflow

Computer Vision Project - Automatic Number plate Recognition with TFOD1.x

- Introduction to ANPR Project
- Requirement Gathering
- Tech Stack Selection
- Data Collection
- Data Augmentation
- Data Preparation
- Data Annotation
- Model Selection From Zoo
- Model Training
- Creating a Pycharm project & Environment Setup ANPR
- Application Workflow
- Create Google OCR API Key
- Project Demo
- Code Understanding
- Debugging our Application

NLP Overview

- NLP Overview
- NLP very basic

NLP Word Embeddings

- TFIDF
- Word Embeddings Part-1
- Word Embeddings Part-2

NLP RNN

- RNN basic
- RNN Implementation

NLP LSTM & GRU

- LSTM Introduction
- GRU

NLP Attention Based Model

- Encoder Decoder and Attention Mechanism
- Attention All You Need Paper Understanding

NLP Transfer Learning in NLP

- GPT and BERT Model
- SOTA Model with Paper Discussions
- Albert & DistillBert Project Discussion

NLP Project :- Megatron

- Megatron Project

NLP Project:- Brand Measures

- Brand Measures Project

NLP Project:- Text to Speech

- Introduction
- Project Setup Text to Speech
- Project Demo
- Code Explanation
- Project Workflow
- Prediction with Postman
- Debugging Application

NLP Project:- Speech To Text

- Introduction
- Project Setup Speech To Text
- Project Demo
- Code Explanation
- Project Workflow
- Prediction with Postman
- Debugging Application

NLP Project:- Spell Corrector

- Introduction

- Project Setup Spell Corrector
- Project Demo
- Code Explanation
- Project Workflow
- Prediction with Postman
- Debugging Application

NLP Project:- Named Entity Recognition

- NER using BERT

NLP Project:- Machine Translation & Keyword Spotting

- Machine Translation
- Keyword Spotting

NLP Project:- Keyword Extractor & Summarization

- Keyword Extraction
- Extractive Text Summarization

NLP project:- Paraphrasing

- Rephrase Project

AIOPS Introduction

- Introduction 1
- Introduction 2
- Introduction 3
- Challenges

- AIML Generic Steps
- Level 0 workflow
- Level 0 characteristics observation
- Level 1 workflow
- Level 1 aim
- Level 1 characteristics
- Frequently used terms
- Data validation
- Model validation Offline
- Model validation Online
- Feature Store
- Metadata Storage
- Pipeline Trigger
- Final summary
- Level 2 aim
- Level 2 CI CD workflow detail discussion part 1
- Level 2 CI CD workflow detail discussion part 2
- Level 2 More on CI
- Level 2 More on CD
- Level 2 Deployment types
- Level 2 Summary final

AIOPS Linux

- Introduction to Linux
- What is Linux

- Important Pieces in Linux
- Features of Linux
- Evolution of Linux
- Differences between Windows and Linux
- Downloading necessary tools
- Installing Ubuntu in Windows
- What is SSH?
- Install SSH clients
- Setting up SSH in Ubuntu VM
- How to do SSH to your Ubuntu VM?
- Setting Up passwordless SSH
- What is Kernel
- Types of Kernel
- What is Shell
- Types of Shell
- Distros in Linux
- Linux Boot Process
- File System
- Run Levels in Linux
- File types of Linux
- Package Management
- Package Managers & DPKG
- Working with APT & APT GET
- Apt-get Advanced Part 1

- Apt-get Advanced Part 2
- Linux Commands Part1
- Linux Commands Part2
- Linux Commands Part3
- Linux Commands Part4
- cat command usages
- File Archival
- File Compression
- Files and Patterns Search
- Input Output Redirection
- Working with Vi Editor
- Advanced Vi Editor Part 1
- Advanced Vi Editor Part 2
- Types of Account in Linux
- User Management
- Group Management
- Files Access Controls
- Linux File Permissions
- Modifying File Ownership
- Sudoers in Linux
- Cronjobs
- SCP
- Special Permissions
- System Management

- System tools
- Hard link and Soft link
- Aliasing in Linux
- Creating users in Multiple ways
- Launching an Ubuntu VM and SSH Setup
- Package installation in VM
- Running our Calculator App
- Gunicorn & Nginx Setup
- Creating a Gunicorn Service
- Attaching an Elastic IP
- Attaching OpenSSL Certificates for https

AIOPS Git

- Git Introduction
- Types of Version Control
- What is Git?
- Why Git?
- Git Installation in Windows
- Git Installation in Linux
- Git Setup
- Git Terminologies
- Repositories in GIT
- Creating Repository
- Checking Repository History
- Doing Commits

- git diff
- git restore
- Tagging
- Branching
- Branching Practicals
- Merging
- Merge Conflicts
- Remote repository
- Cloning Repository
- Working with Remote Repository
- Pushing to Remote Failed in Github
- Personal Access Token Setup in Windows
- Personal Access Token Setup in Linux
- Pull Request
- git Fetch & Pull
- Fork
- Rebasing
- Interactive Rebasing
- Git Rewrite History
- Git Rewrite History continued
- Cherry Picking
- Modify Recent Commits
- Git Revert
- Git Checkout

- Git Reset
- Git Stash
- Git Reflog
- Course Outro

AIOPS Docker

- Docker Introduction
- What is Docker?
- Why Docker?
- Benefits of Docker
- What is Container?
- Containers vs VM
- Containers vs Image
- Docker Editions
- What Docker is not?
- Important Terminologies
- Docker Setup in Windows
- Docker Setup in Linux
- Docker Setup in Mac
- Docker Basic Commands part 1
- Docker Basic Commands part 2
- Docker Run Part 1
- Docker Run Part 2
- Docker Images
- Creating a new image

- Environment variables
- Commands & Entrypoints
- Docker Compose
- Voting Application Understanding
- Docker Compose Versions
- Docker Compose Networks
- Voting Application with Docker Run

BigData - Introduction to Big Data and Data Engineering

- Big Data Engineering

BigData - Introduction to Distributed Systems - Hadoop and MapReduce

- Big Data Engineering Introduction

BigData - Map Reduce & YARN

- Big Data Hadoop Map Reduce YARN
- Hadoop Map Reduce Hands On

BigData - Hive

- Apache hive

BigData - Hive Hands On

- Apache hive Hands On

BigData - NoSQL and Hbase

- Big Data HBase

- Hbase hands On

BigData - Sqoop

- Big Data Sqoop
- Big Data Sqoop Hands On

BigData - Spark

- Spark - Introduction
- Big Data Engineering using PySpark- RDDs
- Spark hands on - RDD
- Big Data Engineering using PySpark- Core, Internals, Architecture
- Apache Spark Actions_ Transformations
- Apache Spark Caching
- Big Data Engineering using PySpark- Shared Vars , Coalesce Repartition
- Big Data Engineering using PySpark- Dataframes
- Spark hands on - Dataframe
- Spark hands on - Databricks
- Big Data Engineering using PySpark- Catalyst& Tungsten

BigData - Spark ML

- Big Data Engineering using PySpark- MLlib
- Spark hands On - Spark ML Lib

BigData - Spark Streaming

- Big Data Engineering using PySpark- Streaming Part 1

- Big Data Engineering using PySpark- Streaming Part 2
- Spark hands On - Spark Streaming

BigData - Kafka

- Big Data Kafka
- Big Data Kafka Hands on

BigData - Apache Airflow - Workflow Management Platform

- Big Data - Airflow
- Big Data Airflow Hands On

Big Data Projects

- IoT Sensor data pipeline using Kafka-Spark Streaming
- Product Recommendation Engine using Kafka-Spark Streaming
- Short Video App Analytics

Basic Charts in Power BI

- 2.0 Basic Charts in Power BI Desktop
- 2.1 Column Chart in Power BI
- 2.2 Stacked Column Chart in Power BI
- 2.3 Pie Chart in Power BI
- 2.4 Donut Chart in Power BI
- 2.5 Funnel Chart in Power BI
- 2.6 Ribbon Chart
- 2.7 Include and Exclude

- 2.8 Export data from Visual

Working with Maps

- 3.1 Creating a Map in Power BI
- 3.2 Filled Map
- 3.3 Map with Pie Chart
- 3.4 Formatting in Map
- 3.5 Change Background in Map
- 3.6 Map of India in Power BI
- 3.7 Map of Australia in Power BI

Tables and Matrix in Power BI

- 4.0 Table and Matrix in Power BI
- 4.1 Creating a Table in Power BI
- 4.2 Formatting a Table
- 4.3 Conditional Formatting in Table
- 4.4 Aggregation in Table
- 4.5 Matrix in Power BI
- 4.6 Conditional Formatting in Matrix
- 4.7 Hierarchy in Matrix
- 4.8 Sub-Total and Total in Matrix
- 4.9 Number Formatting in Table

Other Charts in Power BI

- 5.0 Other Charts in Power BI

- 5.1 Line Chart in Power BI
- 5.2 Drill Down in Line Chart
- 5.3 Area Chart in Power BI
- 5.4 Line vs Column Chart in Power BI
- 5.5 Scatter Plot in Power BI
- 5.6 Waterfall Chart in Power BI
- 6.7 TreeMap in Power BI
- 5.8 Guage Chart in Power BI

Cards and Filters

- 6.0 Cards and Filters in Power BI
- 6.1 Number Card
- 6.2 Text Card
 - 6.2.1 Formatting of Text Card
- 6.3 Date Card
 - 6.3.1 Date Card (Relative Filtering)
- 6.4 Multi-Row Card
- 6.5 Filter on Visual
- 6.6 Filter on This PAge
- 6.7 Filter on All Pages
- 6.8 Drillthrough in Power BI

Slicers in Power BI

- 7.0 Slicers in Power BI
- 7.1 Text Slicers in Power BI

- 7.2 Formatting a Text Slicer
- 7.3 Date Slicers in Power BI
- 7.4 Formatting a Date Slicer
- 7.5 Number Slicers in Power BI

Advanced Charts in Power BI

- 8.0 Advanced Charts in Power BI
- 8.1 Animated Bar Chart Race
- 8.2 Drill down donut Chart
- 8.3 Drill down Column chart
- 8.4 Word Cloud in Power BI
- 8.5 Sankey Chart in Power BI
- 8.6 Infographic in Power BI
- 8.7 Play Axis in Power BI
- 8.8 Scroller in Power BI
- 8.9 Sunburst Chart in Power BI
- 8.10 Histogram in Power BI

Objects in Power BI

- 9.1 Insert Image in Power BI
- 9.2 Insert Text in Power BI
- 9.3 Insert Shapes in Power BI
- 9.4 Insert Buttons in Power BI
- 9.5 Web URL Action in Power BI
- 9.6 Page Navigation Action in Power BI

- 9.7 Bookmark Action in Power BI
- 9.8 Drillthrough Action in Power BI

Power BI Service Introduction

- 10.1 Create a Superstore Report in Power BI
- 10.2 Create an Account on Power BI Service
- 10.3 Publish Report to Power BI Service Account
- 10.4 Export Power BI Report to PPT, PDF or PBIX
- 10.5 Comment, Share and Subscribe to Power BI Report
- 10.6 Create a Dashboard in Power BI Service
- 10.7 Problem in Power BI Dashboard and its solution
- 10.8 Automatic Refresh in Power BI using Gateway

Power Query - Text Functions

- 11.0 Text Functions in Power Query (Power BI)
- 11.1 Merge Columns in Power Query (Power BI)
- 11.2 Split and Trim in Power Query (Power BI)
- 11.3 Upper, Lower and ProperCase in Power Query (Power BI)
- 11.4 Prefix and Suffix in Power Query (Power BI)
- 11.5 Left, Right and Mid Functions in Power Query (Power BI)
- 11.6 Extract Text with Delimiters

Power Query - Date Functions

- 12.0 Date Functions in Power Query (Power BI)
- 12.1 Year, Quarter, Month and Day Functions in Power Query (Power BI)

- 12.2 Find Difference between Dates in Power Query(Power BI)
- 12.3 Month and Day Name in Power Query (Power BI)
- 12.4 Day,Week of Month,Year in Power Query (Power BI)
- 12.5 Extract Date, Time in Power Query (Power BI)
- 12.6 Calculate Age in Power Query (Power BI)
- 12.7 Day of Year,Quarter,Month in Power Query (Power BI)

Power Query - Number Functions

- 13.0 Number Functions in Power Query (Power BI)
- 13.1 Basic Number Functions in Power Query (Power BI)
- 13.2 Percentage,Percent Of, Module in Power Query (Power BI)
- 13.3 Round Functions in Power Query (Power BI)
- 13.4 IsEven,IsODD, Sign in Power Query (Power BI)

Power Query - Append Files

- 14.1 Append multiple CSV files in a folder in Power Query (Power BI)
- 14.2 Append multiple excel sheets,Tables in Power Query (Power BI)
- 14.3 Append Excel sheets or Tables with different columns in Power BI
- 14.4 Append multiple Excel files from a folder in Power BI
- 14.5 Append different data sources in Power BI

Power Query - Merge Files

- 15.0 Merge Files and Tables in Power BI
- 15.1 Merge Sheets or Tables in Power Query (Power BI)
- 15.2 Merge Data from multiple Excel files or Workbooks in Power BI

- 15.3 Merge data from different data sources in Power Query (Power BI)
- 15.4 Merge data having multiple criteria in Power BI

Power Query - Conditional Columns

- 16.0 Conditional Column and Column from example in Power BI
- 16.1 Column from examples in Power BI - Split Text
- 16.2 Column from examples in Power BI - Merge Columns
- 16.3 Column from Examples in Power BI - Date
- 16.4 Column from Examples in Power BI - Alphanumeric
- 16.5 Conditional Column in Power BI - One Column
- 16.6 Conditional Column in Power BI - two columns
- 16.7 Conditional Column in Power BI - Compare two columns
- 16.8 Conditional Column in Power BI - on Dates

Power Query - - Important Topics

- 17.0 Very Important Topics in Power Query (Power BI)
- 17.1 Fill Down in Power BI
- 17.2 Grouping in Power Query (Power BI)
- 17.3 Transpose in Power Query (Power BI)
- 17.4 Unpivot In Power Query (Power BI)
- 17.5 Data Types in Power Query (Power BI)
- 17.6 Replace Errors and Values in Power Query (Power BI)
- 17.7 Keep and Remove Rows in Power Query (Power BI)
- 17.8 Add, Remove and Goto Columns in Power Query (Power BI)

M Language Introduction

- 18.0 M Language in Power Query
- 18.1 Introduction to M Language
- 18.2 IsIn Date Functions in M Language - Power BI
- 18.3 Add and Subtract Date M Functions in Power BI
- 18.4 Basic Date M Functions in Power BI
- 18.5 Basic Text M Functions in Power BI
- 18.6 Simple M Code in Power BI
- 18.7 Trick to get all 900+ M Functions in Power BI

Introduction to tableau

- Tableau Introduction
- Download and Install Tableau
- Tableau Vs Excel

Charts - 1

- Column Chart
- Horizontal Bar Chart
- Stacked Column Chart
- Stacked Bar Chart
- Keep Only,Exclude
- Keep Only,Exclude2_Normal
- Publish to Tableau Public

Charts - 2

- Pie Chart
- Multiple Pie Chart
- TreeMap_Editing
- Packed Bubble Chart
- Word Cloud OR Word Map
- Formatting payal

Charts - 3

- Data Types in Tableau
- Filled Map
- Symbol Maps
- India Map
- Histogram

Charts - 4

- Text Table
- Text Table with Multiple Measures
- Measure Names and Measure Values
- Line Chart
- Line Chart with Multiple Measures
- Discrete Vs Continuous Line Chart
- Discrete Vs Continuous

Charts - 5

- Lollipop Chart

- Line Vs Column Chart
- Dual Axis Chart
- Column vs Shapes
- Bar in Bar Chart

Charts - 6

- Calculated fields
- Conditional Column Chart
- Column chart with Shapes based on condition
- Conditional Maps

Charts - 7

- Map with Pie Chart
- Map with WMS

Charts - 8

- Funnel Chart
- Advanced Funnel Chart
- Calendar
- Dumbell Chart
- Donut Chart
- Multiple Donut Chart

Charts - 9

- Bullet Chart 1

- Bullet Chart 2
- Table Calculations Part 1
- Table Calculations - Compute Using - Part 2
- Table Calculations - Relative - Part 3
- Bump Chart
- Bump Chart with Circle
- 100 Percent Stacked Column Chart

Charts - 10

- Scatter Plot
- Scatter Plot with Images OR Shapes
- Bubble Chart
- Animation - Column Chart
- Animation - Line Chart
- Animation - Column vs Line Chart

Charts - 11

- Heat Maps
- Heat Map with Shapes
- Heat Map with Conditional Formatting
- Pareto Chart
- Rounded Bar Chart

SQL

- Database Architecture

- Introduction to SQL
- Constraints
- Data Definition Language (DDL)
- Data Query Language (DQL)
- Data Manipulation Language (DML)
- Joins
- Import Export
- Aggregate Functions
- Order by, Having & Limit Clause
- String Functions
- Datetime functions
- Understanding Regular Expressions
- Nested Queries
- Views
- Stored Procedures
- WindowsFn
- Python-SQL Connectivity

Excel

- Introduction to Excel
- Pre-defined functions
- Datetime Functions
- String functions
- Mathematical functions
- Lookup

- Logical & Error Functions
- Statistical Functions
- Images in Excel
- Excel Formatting
- Custom Formatting
- Conditional Formatting
- Charts in Excel
- Data Analysis using Excel
- Pivot Tables
- Dashboarding in Excel
- Others
- What-If Tools - Scenario Manager, Goal Seek

Chatbot - Google Dialog Flow

- What is Chatbot?
- Why Chatbot?
- Types of Chatbot
- Use of Chatbot
- Examples of chatbot
- Chatbot Architecture
- Google Account
- Dialogue Console quick review
- Dialogflow - Agents
- Dialogflow - Create and manage agents
- Dialogflow - Prebuilt Agents

- Dialogflow - Multilingual agents
- Dialogflow - Mega agents
- Dialogflow - Intents
- Dialogflow - Create and manage intents
- Dialogflow - Training Phrases
- Dialogflow - Actions and parameters
- Dialogflow - Responses
- Dialogflow - Rich response messages
- Dialogflow - Default intents
- Dialogflow - Entities
- Dialogflow - Entity options
- Dialogflow - System entities
- Dialogflow - Custom entities
- Dialogflow - Contexts
- Dialogflow - Input and Output contexts
- Dialogflow - Follow-up intents
- Dialogflow - Follow-up intents creation
- Dialogflow - Events
- Dialogflow - Fulfillment
- Dialogflow - Inline editor
- Dialogflow - Webhook service
- Overview
- Create Agent in Dialogflow
- Create Intent and Entities

- Food order Intent
- Why integration required?
- Telegram Integration
- facebook integration
- facebook integration test
- Slack Integration
- Covid-19 chatbot Overview
- Agent & intent creation
- World stats info intent
- webhook code for welcome intent
- Get Stats Covid code
- world Covid code
- Deployment
- Enable webhook
- Summary

Chatbot - RASA

- What is Chatbot?
- Why Chatbot?
- What is Rasa?
- Why Rasa?
- Create a Virtual Environment using conda
- Installation of Rasa in Windows
- Introduction to Rasa NLU - Intents and Entities
- Creating Intents & Entities Examples: Training Data

- Rasa NLU File structure
- Defining NLU Pipeline in Config File
- Install RASA-x
- Train our first Rasa NLU model
- Rasa NLU Entity Synonyms & Lookup Tables
- Introduction to Custom Components in RASA NLU
- Introduction of Transfer Learning and Pre-trained Word Embeddings
- Custom Gensim embeddings in RASA
- RASA Core
- Custom Action Defined
- RASA Core-Stories
- Introduction of Dialogue Policies
- Memoization & Mapping Policy
- Machine learning policy
- Priority Policies
- Add intent domain.yml
- Update response
- Add stories.md
- Train model
- Telegram integration
- Facebook integration
- Twilio account
- Whatsapp integration url
- Course summary

Chatbot - Amazon Lex

- Introduction
- What is Chatbot?
- Why Chatbot?
- What is Lex?
- Lex supported languages
- Programming Model
- Intent & Slots
- Model Building APIs
- Runtime API Operations
- Managing Messages
- Confidence Score
- Conversation Log
- Built-in Intents
- Built-in Slot Types
- Custom Slot Types
- Sentiment Analysis
- Configuring Lambda functions as fulfillment
- Integration
- Custom Building Chatbot Overview

Chatbot - Azure Luis

- Course Introduction
- What is Chatbot?

- Why Chatbot?
- What is LUIS?
- Intent & Utterances
- Prebuilt Domain intent
- Using Entities
- Entity types
- Utterances
- Pattern
- Machine learning features
- Prediction score
- Data management
- LUIS and QnA maker
- CI/CD with Luis
- Overview
- Azure portal setup
- Intent/entity
- Luis App credentials
- Installation
- Code walkthrough
- Bot emulator
- Summary

Interview Preparation - Introduction & Induction

- Induction & Course Introduction
- Impact of Data Science in today's world & Roles in Data Science

Interview Preparation - Transition Stories

- Transition story
- Transition story
- Transition Story and Resume Discussion

Interview Preparation - AI Projects Discussion

- Insurance Fraud Detection
- Forest Cover Classification
- Project Architecture Discussion
- Year Wise Resume Discussion
- Project Architecture Discussion
- Project Architecture Discussion - 2
- Brand Measure Project Discussion
- Project Architecture Discussion - 3
- Megatron Project Discussion
- Python Discussion

Interview Preparation - Python

- Python Discussion
- Python Discussion

Interview Preparation - Databases

- MYSQL and MongoDB Discussion
- Interview Question Discussion - 2

Interview Preparation - Interview Questions Discussion

- Interview Question Discussion
- Resume Discussion
- Interview Question Discussion - 3
- Interview Question Discussion - 4
- Interview Question Discussion - 5

Interview Preparation - Project Discussion

- Vision-Based Attendance System
- Face Recognition & Mlops Discussion
- Mlops Discussion
- Brand Measure Project Discussion
- NLP Use Cases Discussion

Interview Preparation - Interview Questions Discussions

- Interview Question Discussion - 1
- Interview Question Discussion - 2
- Interview Question Discussion

Interview Preparation - General Discussion

- Discussion Session - 1
- Discussion Session - 2