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 Scrapper

• Image Scrapper 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 Rigde 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 IntervalZ 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 Tunning

• 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

- Vallidation 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 Intution for CNN

• CNN, Kernels, Channels, Feature Maps, Stride, Padding

• Receptive Fields, Image Output Dimensationality Calculations, MNIST Dataset Explorations with CNN

• MNIST CNN Intutiton, 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 1x

• 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 Tensorflow1x

- 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 2x

• 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

- Detecron2 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 TFOD1x

- 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 Mangement

- Package Mangers & 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 Reccomendation 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

- 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

Advanced Charts in Power BI

Objects in Power BI

Power Query - Number Functions

Power Query - Append Files

Power Query - Merge Files

• 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 Continous 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 Funtions

- 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 mange 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