Course Introduction

• Introduction of Data science and its application in Day to Day life.
• Course overview and Dashboard description.

Python Core

• Introduction of python and comparison with other.
• Programming language.
• Installation of Anaconda Distribution and other python.
• IDE Python Objects, Number & Booleans, Strings.
• Container objects, Mutability of objects.
• Operators - Arithmetic, Bitwise, Comparison and Assignment operators, Operators Precedence and associativity.
• Conditions(If else,if-elif-else), Loops(While,for).
• Break and Continue statement and Range Function.

String Objects and collections

• String object basics.
• String methods.
• Splitting and Joining Strings.
• String format functions.
• List object basics
  list methods.
• List as stack and Queues.
• List comprehensions.
Tuples, Set, Dictionaries & Functions

• Tuples, Sets, Dictionary Object basics, Dictionary Object methods, Dictionary View Objects.
• Functions basics, Parameter passing, Iterators. Generator functions.
• Lambda functions.
• Map, Reduce, Filter functions.

OOPS concepts & Working with Files

• OOPS basic concepts.
• Creating classes and Objects Inheritance.
• Multiple Inheritance.
• Working with files.
• Reading and writing files.
• Buffered read and write.
• Other File methods.

Exception Handling & Database Programming

• Using Standard Module.
• Creating new modules.
• Exceptions Handling with Try-except.
• Creating, inserting and retrieving Table.
• Updating and deleting the data.
Visualization
• Flask introduction.
• Flask Application.
• Open linkFlask.
• App RoutingFlask.
• URL BuildingFlask.
• HTTP MethodsFlask.
• TemplatesFlask.
• Django end to end.

Database
• Mongo DB SQL.
• Lite python SQL.

Python project
• Web crawlers for image data sentiment analysis and product review sentiment analysis.
• Integration with web portal.
• Integration with rest a\Api , Web portal and Mongo DB on Azure.
• Deployment on web portal on Azure.
• Text mining.
• Social media data churn.
Python pandas Modules,

- Python Pandas - Series.
- Python Pandas – DataFrame.
- Python Pandas – Panel.
- Python Pandas - Basic functionality

Function Application

- Python Pandas - Reindexing Python.
- Pandas – Iteration.
- Python Pandas – Sorting.
- Working with Text Data Options & Customization.
- Indexing & Selecting.
- Data Statistical Functions.
- Python Pandas - Window Functions.
- Python Pandas - Date Functionality.
- Python Pandas – Timedelta.
- Python Pandas - Categorical Data
- Python Pandas – Visualization
- Python Pandas - IO Tools.
Python Numpy

- NumPy - Ndarray Object.
- NumPy - Data Types.
- NumPy - Array Attributes.
- NumPy - Array Creation Routines.
- NumPy - Array from Existing.
- Data Array From Numerical Ranges.
- NumPy - Indexing & Slicing.
- NumPy – Advanced Indexing.
- NumPy – Broadcasting.
- NumPy - Iterating Over Array.
- NumPy - Array Manipulation.
- NumPy - Binary Operators.
- NumPy - String Functions.
- NumPy - Mathematical Functions.
- NumPy - Arithmetic Operations.
- NumPy - Statistical Functions.
- Sort, Search & Counting Functions.
- NumPy - Byte Swapping.
- NumPy - Copies & Views.
- NumPy - Matrix Library.
- NumPy - Linear Algebra.
Exploratory Data Analysis

- Feature Engineering and Selection.
- Building Tuning and Deploying Models.
- Analyzing Bike Sharing Trends.
- Analyzing Movie Reviews Sentiment.
- Customer Segmentation and Effective Cross Selling.
- Analyzing Wine Types and Quality.
- Analyzing Music Trends and Recommendations.
- Forecasting Stock and Commodity Prices.

Statistics

- Descriptive Statistics.
- Sample vs Population statistics.
- Random Variables.
- Probability distribution function.
  Expected value.
- Binomial Distribution.
- Normal Distribution z-score.
- Central limit Theorem.
- Hypothesis testing Z-Stats vs T-stats.
- Type 1 type 2 error
- Confidence interval
Machine Learning 1

- Introduction.
- Supervised, Unsupervised, Semi-supervised, Reinforcement Learning.
- Train, Test, Validation Split.
- Performance Overfitting, underfitting OLS.
- Linear Regression assumption.
- R square adjusted.
- R square Intro to Scikit learn.
- Training methodology.
- Hands on linear regression.
- Ridge Regression.
- Logistics regression.
- Precision Recall ROC curve.
- F-Score.
Machine Learning 2
- Decision Tree Cross.
- Validation Bias vs Variance.
- Ensemble approach Bagging.
- Boosting Random.
- Forest Variable Importance.

Machine Learning 3
- XGBoost.
- Hands on XgBoost.
- KNearest Neighbour.
- Lazy learners.
- Curse of Dimensionality.
- KNN Issues.
- Performance measurement.
- Principal Component analysis.
- Dimensionality reduction.
- Factor Analysis.
Machine Learning

- SVR.
- SVM.
- Polynomial Regression.
- Ada boost.
- Gradient boost.
- Gaussian mixture.
- Anamoly detection.
- Novelty detection algorithm
  Stacking.
- K-NN regressor.
- Decision tree regressor
  DBSCAN.

Natural Language Processing

- Text Analytics.
- Tokenizing, Chunking.
- Document term.
- Matrix TFIDF.
- Sentiment analysis hands on.
Spark

- Spark overview.
- Spark installation.
- Spark RDD.
- Spark dataframe.
- Spark Architecture.
- Spark ML lib.
- Spark Nlp.
- Spark linear regression.
- Spark logistic regression.
- Spark Decision Tree.
- Spark Naive Bayes.
- Spark xg boost.
- Spark time series.
- Spark Deployment in local server
- Spark job automation with scheduler.
Deep Learning

- Deep Learning Introduction.
- Neural Network Architecture.
- Loss Function.
- Cost Function.
- Optimizers.
- CNN architecture.
- Build First Classifier in CNN.
- Deploy Classifier over cloud.
- RNN overview.
- GRU.
- LSTM.
- Time Series using RNN LSTM.
- Customer Feedback analysis using RNN LSTM.
Chatbot Project

- Chatbot using Microsoft Luis.
- Chatbot using google Dialog flow.
- Chatbot using Amazon Lex.
- Chatbot using Rasa NLU.
- Deployment of chatbot with web, Telegram, Whatsapp, Skype.

Time Series

- Arima.
- Sarima.
- Auto Arima
- Time series using RNN LSTM.
- Prediction of NIFTY stock price.
Machine learning project

• Healthcare analytics prediction of medicines based on FIT BITband.

• Revenue forecasting for startups.

• Prediction of order cancellation at the time of ordering inventories.

• Anamoly detection in inventory packaged material.

• Fault detection in wafferes based on sensordata.

• Demand forecasting for FMCG product.

• Threat identification in security system.

• Defect detection in vehicle engine.

• Food price forecasting with Zomato dataset.

• Fault detection in wafferes based on sensor data.

• Cement_Strength_ reg.
• Credit Card Fraud.

• Forest_Cover_Classification.

• Fraud Detection.

• Income Prediction.

• Mushroom classifier, Phising Classifier, Thyroid_Detection.

• Visibility climate.

Deep Learning projects

• Customer Feedback analysis using RNN LSTM.

• Family member detection.

• Industry financial growth prediction.

• Speech recognition based attendance system.

• Vehicle Number plate detection and recognition system.
Deployment

- Deployment of all the project In cloudfoundary, AWS, AZURE and Google cloud platform.
- Expose, api to web browser and mobile application retraining approach of Machine learning model.
- Devops infrastructure for machine learning model.
- Data base integration and scheduling of machine learning model and retraining custom machine learning training approach.
- AUTO ML.
- Discussion on infra cost and data volume.
- Prediction based on streaming data.

Extra session

- Discussion on project explanation in interview.
- Data scientist roles and responsibilities.
- Data scientist day to day work.
- Companies which hire a data scientist.
- Resume discussion with our team one to one.
Vehicle number plate detection and recognition system.

Tableau and power Bi self placed session

- Business Intelligence (BI) Concepts.
- Microsoft Power BI (MSPBI) introduction.
- Connecting Power BI with Different Data sources.
- Power Query for Data Transformation.
- Data Modelling in Power BI.
- Reports in Power BI Reports and Visualisation types in Power BI.
- Dashboards in Power BI.
- Data Refresh in Power BI.
- Traditional Visualisation(Excel) vs Tableau.
- About Tableau.
- Tableau vs Other BI Tool Pricing.
- At the End of this course.
Projects

• Project 1. Project Sales.
• Project 3. HealthCare.
• Project 4. Procurement Spend Analysis.
• Project 5. Human Resource.

Tableau Interview Questions.
Thank you