Machine Learning Masters

Instructors:

Sunny Bhaveen Chandra:

Sr. Data Scientist and lecturer at iNeuron.ai with working experience in computer vision, natural language processing and embedded systems. Hands-on experience leveraging machine learning, deep learning, transfer learning models to solve challenging business problems. Also, he has a vast interest in Robotics.

Sourangshu Pal:

Visual Computing Engineer and instructor at iNeuron.ai having 3 years of diverse experience in the discipline of visual computing with specialization in Deep Learning and Computer Graphics. Loves to analyze, process, and model visual data then interpret the insights to create actionable plans for solving challenging business problems.

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.

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.

Curriculum:

Course Introduction

• Introduction of Data science and its application in Day to Day life Preview

• Course overview and Dashboard description Preview

Python Core

• Introduction of python and compari s on 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, C omparison and Assignment o perators, 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 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

• Exceptions Handling with Try except

Api

• Flask introduction

• Flask Application

• Open linkFlask

• App RoutingFlask

• URL BuildingFlask

• HTTP MethodsFlask

Database

• Mongo DB SQL

• Lite python SQL

Python pandas Modules

• Python Pandas Series

• Python Pandas DataFrame

• Python Pandas Panel

• Python Pandas Basic functionality

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

• Chi Square test

• ANOVA test

• F stats

Machine Learning 1

• Introduction

• Supervised , Unsupervised, Semi supervised, Reinforcement 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 Randon

• Forest Variable Importance

Machine Learning 3

• XGBoost

• Hands on XgBoost

• K Nearest Neighbour

• Lazy learners

• Curse of Dimensionality

• K NN Issues

• Hierarchical clustering K Means

• Performance measurement

• Principal Component analysis

• Dimensionality reduction

• Factor Analysis

Machine Learning4

• SVR

• S V M

• Polynomial Regression

• Ada boost

• Gradient boost

• Gaussian mixture

• Anamoly detection

• Novelty detection algorithm Stacking

• K NN regressor

• Decisson tree regressor DBSCAN

Natural Language Processing

• Text Ananlytics

• 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.

Time Series

• Arima

• Sarima .

• Auto Arima

• Time series using RNN LSTM .

• Prediction of NIFTY stock price.

Deployment

• Deployment of all the project In cloudfoundary , AWS AZURE and Google cloud platform

• Expose api to web browser and mobile application retraining a pproach of Machine learning model

• Devops infrastructure for machine learning model

• Data base integration and scheduling of machine learning model and retraining c ustom machine learning training approach.

• AUTO ML

• Discussion on infra cost and data volume

• P rediction based on streaming data

Extra session

• Discussion on project explanation in interview

• Data scientist roles and responsiblities

• Data scientist day to day work

• Companies which hire a data scientist

• Resume discussion with our team one to one

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.

Tableau Interview Questions.

Python project

• Web crawlers for image data sentiment analysis and product review sentiment analysis

• Integration with web portal

• Integration with rest a A pi W eb portal and Mongo DB on Azure

• Deployment on web portal on Azure

• Text mining

• Social media data churn

Chatbot Project

• Chatbot using Microsoft Luis

• Chatbot using google Dialog flow

• Chatbot using Amazon Lex

• Chatbot using Rasa NLU

• Deployemnt of chatbot with web , Telegram , Whatsapp , Skype

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 recognization based attendance system.

- Vehicle Number plate detection and recognition system.

Tableau and power Bi Projects

- Project 1. Project Sales.

- Project 2. Financial Report.

- Project 3. HealthCare.

- Project 4. Procurement Spend Analysis.

- Project 5. Human Resource Tableau