



# Machine Learning MASTERS

## ABOUT US

We are on a mission to build a professional product-driven community around the globe where an individual can collaborate, learn, share and develop real-time use cases with trending technologies.

We at iNeuron Academy believe in delivering a quality curriculum via highly qualified professional team who have worked as senior data scientists, Deep Learning Engineers and AI Researchers in leading MNC's around the globe. Our primary focus is to provide a different way of experience for freshers as well as professionals through our community which make them work, learn, develop and to grow in the competitive industry.

We transform an individual from zero to advance by providing them with all support from our experts and creating opportunities from our lifelong learning community who believe in sharing, learning and growing together. We believe in providing best-quality training across the globe to enrich user experience from our blended learning approach focused on a different mode of expertise to learn, build and grow. iNeuron Academy offers cost effective quality education which is more focused on building something unique for the industry with our world-wide community to work differently among the crowd.

## OUR SPEAKER



**SUDHANSHU KUMAR**  
(CEO)

 /in/sudhanshu-kumar

Sudhanshu Kumar is CEO and Lead AI Engineer at iNeuron.ai and He is excited to use AI to combat different industries like healthcare, AI for kids to establish a different form of education across the globe. He has worked with Verizon Labs as a Data Scientist, Data Scientist at Deloitte India and with Wipro as a Project Engineer.



**Krish Naik**  
Advisor at iNeuron.ai

 /in/naikkkrish

Krish Naik is an Advisor at iNeuron.ai . He'll be helping us with curriculum design and teaching methodologies. He brings with him a lot of industry experience in data science and that gets reflected in the training that we provide.

# Course Introduction

- Introduction of Machine Learning and its application in Day to Day life
- Course overview and Dashboard description

## Python Core

- Introduction to python and comparison with other programming language
- Installation of Anaconda Distribution and other python IDE
- Python Objects, Numbers & Booleans, Strings, Container objects, Mutability of objects.
- Operators - Arithmetic, Bitwise, comparison and Assignment operators, Operators Precedence and associativity.
- Conditions (If else, if-elif)
- Loops (While, For)
- Break and Continue statements
- Range functions

## 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 Buffered write
- Other File methods

## Modules , 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

- Matplotlib
- Seaborn
- Plotly
- Cuflinks

## Rest API

- Flask Introduction
- Flask Application
- Open link Flask
- App Routing Flask
- URL Building Flask
- HTTP Methods Flask
- Templates Flask
- 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
- Integeration with web portal
- Integeraton with rest API ,web portal and mongo db on Azure
- Deployment on web portal on Azure
- Text mining
- Social media data churn

# Python Pandas

- Python Pandas - Series
  - Python Pandas - DataFrame
  - Python Pandas - Panel
  - Python Pandas - Basic Functionality
  - Python Pandas - Reindexing
  - Python Pandas - Iteration
  - Python Pandas - Sorting
  - Python Pandas - Working with Text Data
  - Python Pandas - Options & Customization
  - Python Pandas - Indexing & Selecting Data
  - Python Pandas - Window Functions
  - Python Pandas - Date Functionality
  - Python Pandas - Timedelta
  - Python Pandas - Categorical Data
  - Python Pandas - Visualization
  - Python Pandas - IO Tools
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# Python Numpy

- NumPy - Nddarray Object
  - NumPy - Data Types
  - NumPy - Array Attributes
  - NumPy - Array Creation Routines
  - NumPy - Array from Existing Data
  - NumPy - 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
  - NumPy - Sort, Search & Counting Functions
  - NumPy - Byte Swapping
  - NumPy - Copies & Views
  - NumPy - Matrix Library
  - NumPy - Linear Algebra
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# Exploratory Data Analysis


- Feature Engineering and Feature 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 Disrtributions
- 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

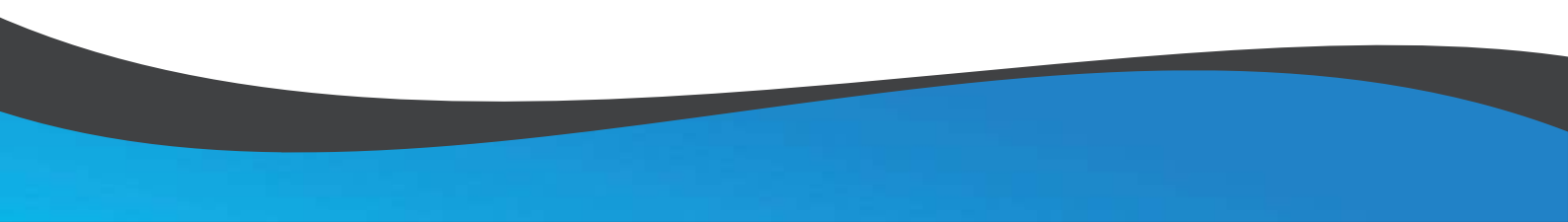
## Machine Learning -1

- Introduction
  - Supervised, Unsupervised, Semi-supervised & Reinforcement
  - Train, Test & Validation Split
  - Performance
  - Overfitting & Underfitting
  - OLS
  - Linear Regression
  - Assumptions
  - 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
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## Machine Learning - 2

- Decision Tree
- Cross Validation
- Bias vs Variance
- Ensemble Approach
- Bagging & Boosting
- Random Forest
- Variable Importance

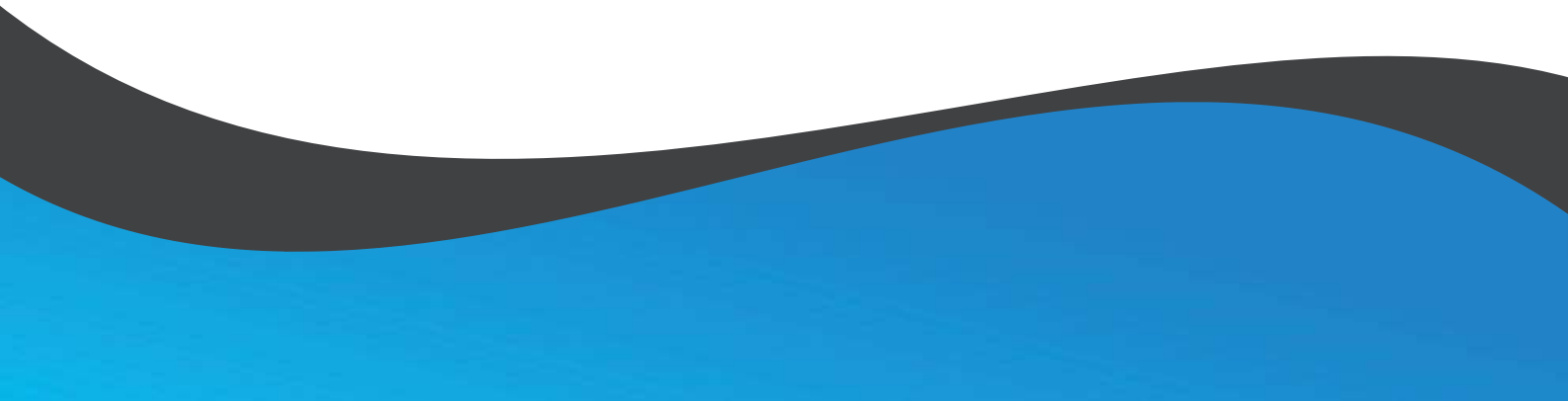
## Machine Learning - 3

- XGBoost
  - Hands on XGBoost
  - K Nearest Neighbour
  - Lazy learners
  - Curse of Dimensionality
  - KNN Issues
  - Hierarchical Clustering
  - K-Means
  - Performance Measurement
  - Principal Component Analysis
  - Dimensionality Reduction
  - Factor Analysis
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# Machine Learning - 4

- SVR
- SVM
- Polynomial Regression
- Ada Boost
- Gradient Boost
- Gaussian Mixture
- Anamoly Detection
- Novelty Detection Algorithm
- Stacking
- K-NN Regressor
- Decisson Tree Regressor
- DBSCAN

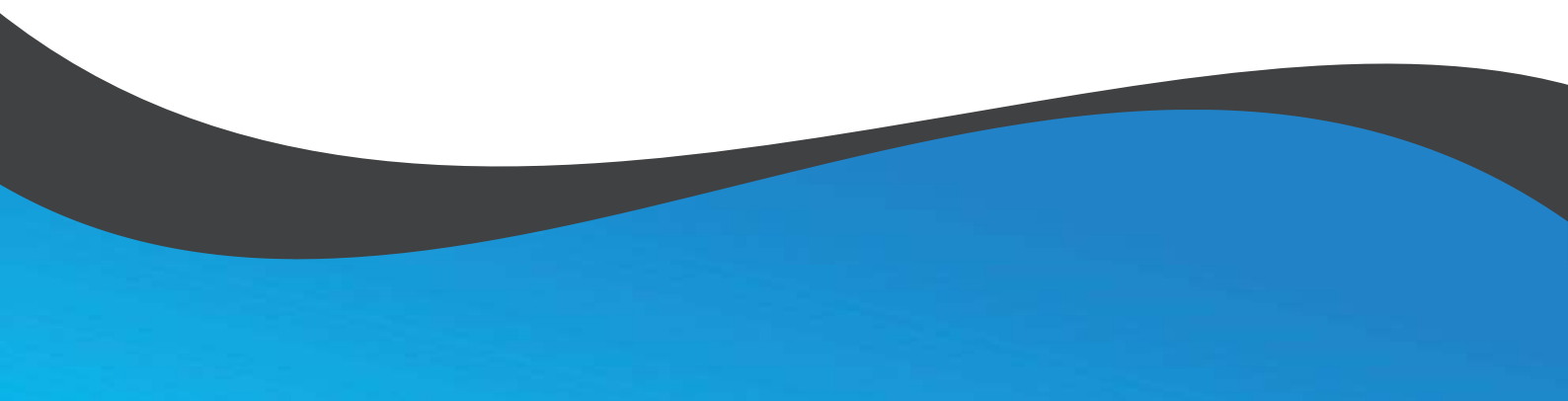
# Natural Language Processing

- Text Ananlytics
  - Tokenizing & Chunking
  - Document term Matrix
  - TFIDF
  - Hands on Sentiment Analysis
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## 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 BIT Band
  - 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 sensor data
  - Demand forecasting for FMCG product
  - Threat identification in security system
  - Defect detection in vehicle engine
  - Food price forecasting with zomato dataset
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# Deployment

- Deployment of all the project In cloudfoundary , AWS ,AZURE and googe cloud platform.
- Expose API to web browser and mobile application
- Retraining approach of Machine learning model
- Devops infrastructure for machine learning model
- Database 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

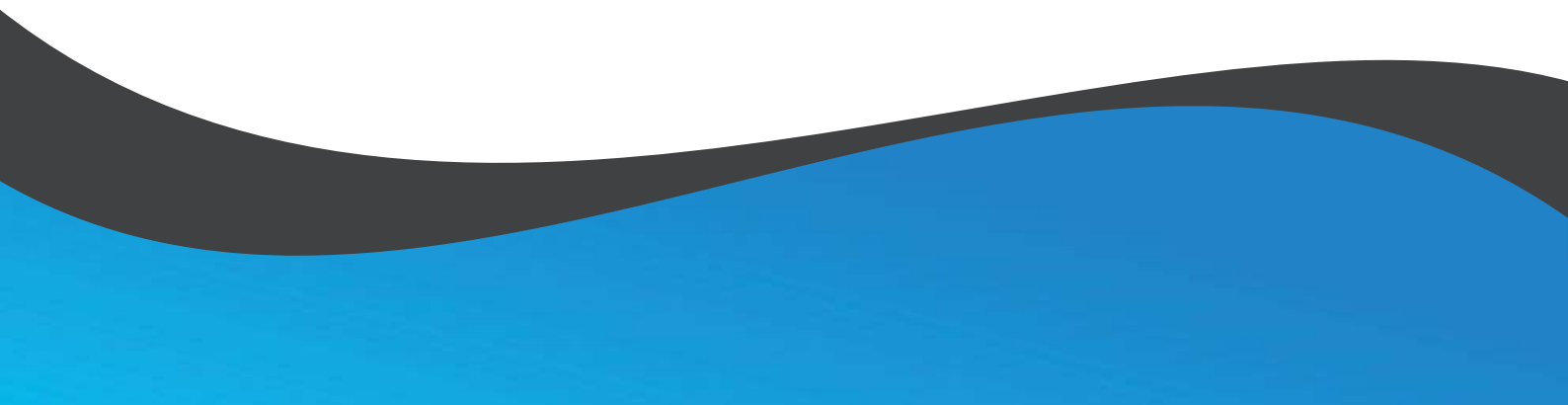
- Discussion on project explanation in interview
  - Data scientist roles and responsiblities
  - Data scientist day to day work
  - Companies which hire a data scientist
  - Resume discussion with our team one to one
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## Interview preparation

- End to End Scenario based Interview preparation for every individual

## Resume Discussion

- One to One resume Discussion with project , technology and Experience.
- Mock interview for every students multiple rounds





**Thank you**