



# NLP 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 with highly qualified professional team worked as Senior Data Scientist, Deep Learning Engineer and AI researcher in leading MNC'S around the globe. Our main focus is to provide a different way of expertise for freshers as well as professional 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 and 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.

**JIWITESH KUMAR**  
(CTO)

 /in/jiwitesh-kumar



Jiwitesh Kumar is CTO(Chief Technical Officer) at iNeuron.ai and a Chief Data Scientist Leading with product development. He is having 4+ years of experience in NLP(Natural Language Processing) and worked on more than 30+ products based on Data Science, Machine Learning, Deep Learning, Computer vision and NLP.

# 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 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 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.

## Machine Learning 3

K Nearest Neighbour

Lazy learners

Curse of Dimensionality

KNN issues

Hierarchical clustering

K-Means

Performance measurement



## visualization

Matplot lib

seaborn

plotly

cuflinks

## Rest api

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 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

Descriptive Statistics

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 - Nddarray 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 Disrtributions

z-score

Central limit Theoram

Hypothesis testing

Z-Stats vs T-stats

Type 1 type 2 error

confidence interval

Chi Square test

ANOVA test

F-stats

.

# Python Project

Web crawling 12for image data sentiment analysis

Web crawling for product review sentiment analysis

Text mining

## NLP 1

Basic of Neural Network

Type of NN

Cost Function

Gradient descent

Linear Algebra basics

Neural Networks Forward Pass & Backpropagation



# NLP 2

Natural Language Understanding

Morphology and Diversity

Ambiguity and Paradigms

Structures and Meaning

Lexical Knowledge Networks Metaphors and coreferences,

Regular Expressions

Tokenisation

Sentence splitting

Regex applications

Word count

Normalisation

Wordnet

Frequency Distribution

N Gram introduction



# NLP 3

Supervised Learning in text,

TFIDIF theory

Vector representations

word2vec

similarity measures in vector space

N gram Analysis

Smoothing, Back off

Interpolation, Language models

POS tagging

POS challenges, accuracy

HMM, Viterbi

Forward and backward pass

Baum Welch Algorithm



## NLP4

Probabilistic parsing

Ambiguity parsing

Constituency parsing

Top down and Bottom Up Parsing

Word Embedding

CBOW, Skip-gram

Word Relations

## NLP 5

Keras Refresher

Representing text through RNNs

Word2vec skip gram mode

Recurrent neural networks for N-gram models

CNN for text using keras

RNN for text using keras

Understanding LSTMs

LSTM Implementation

GRU





# NLP 6

AutoEncoder

Encoders and Decoders

BERT

ELMO

GPT1

GPT2

ALBERT

## Chatbot Project

"Intents and Entites

Fulfillment and Integration

Chatbot using Microsoft Luis

Deployment in Telegram , Whatsapp,Skype

Chatbot using Google Dialog Flow

Deployment in Telegram , Whatsapp,Skype

Chatbot using Amazon Lex

Deployment in Telegram , Whatsapp,Skype

Chatbot using Rasa NLU

Deployemnt of chatbot with Web , Telegram , Whatsapp,Skype"





THANK  
YOU

