



Deep 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/naikkrish



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 Deep 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.

Rest API

- Flask Introduction
- Flask Application
- Open linkFlask
- App RoutingFlask
- URL BuildingFlask
- HTTP MethodsFlask
- TemplatesFlask
- Django end to end

Visualization

- Matplotlib
- Seaborn
- Plotly
- Cuflinks

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 & 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
- Working with Text Data
- Options & Customization
- 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

Python Numpy

- NumPy - Ndarray 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

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 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

Deep Learning -1

- Basic of Neural Network
- Type of Neural Network
- Cost Function
- Gradient descent
- Linear Algebra basics
- Vanilla Implementation of Neural Network in Python
- Tensorflow In depth
- Hands on Simple Neural Network with Tensorflow
- Word Embedding
- CBOW, Skip-gram
- Word Relations
- Hands on word2vec

Deep Learning - 2

- Convolutional Neural Network
- Maxpool, Window padding
- Hands On Convolutional Neural Network
- Image classification using Convolutional Neural Network
- Recurrent Neural Network
- Long Short Term Memory (LSTM) architecture,
- Building Story writer using character level RNN
- Hands on Sentiment Analysis
- Hands on Embedding + RNN
- Seq-to-Seq model
- Hands on translation
- Encoder Decoder
- Hands on Cleaning images

Deep Learning - 3

- GAN
- Generative Model Using GAN
- BERT
- Semi-Supervised learning using GAN
- Restricted Boltzmann Machine(RBM) and Auto-encoders
- CNN Architectures
 - LeNet-5
 - AlexNet
 - GoogLeNet
 - VGGNet
 - ResNet
 - SSD
 - SSD lite
 - Faster R CNN

Deep Learning - 4

- S-CNN
- Masked R-CNN
- Xception
- SENet
- Facenet
- Implementing a ResNet-34 CNN Using Keras
- Using Pretrained Models From Keras
- Pretrained Models for Transfer Learning
- Classification and Localization
- Tensorflow Object Detection
- You Only Look Once (YOLO)
- Semantic Segmentation

Minor Project

- Case Study: Spam Detection
- Case Study : Anomaly Detection
- Case Study: Image Classification
- Case Study : Prediction of lungs Disease
- Case Study : Google and Microsoft speech and vision API integration
- Case Study: Translation model for languages
- Image Classification
- Image Segmentation/Object Detection

Major project phase 1

- Face Recognition
- Clinical Diagnostics: Image Identification, classification & segmentation.
- Music/Audio Recommendation Systems
- Style Transfer

Major Project Phase - 2

- Statistical Project
- Trafic Surveillance System
- Object Identification
- Object Tracking
- Object Classification
- Tensorflow Object Detection
- Image to Text processing
- Speech to Speech analysis
- Vision Based Attendance System
- Vision Based Sentiment Analysis
- Raspberry pi Integration
- Azure cloud Integration
- Deployment in ML devOps pipeline
- Autonomous Vehicle
- Custom Object training using TFOD
- Truck licence plate detection and its integration with IP camera
- End to end cloud Deployment of computer vision ,
- Machine learning and NLP project

Google Coral

- Hardware Architecture
- Coral Requirements
- End to End Coral Setup
- Deploying Models in Edge TPU
- Pose Estimation using Coral
- Hand Detection Using Coral
- Face Detection Using Coral
- Music Generation Using Pose and Action

Nvidia Jetson Nano

- Hardware Architecture
- Jetson Nano Requirements
- End to End Jetson Nano Setup
- Deploying Models in Edge TPU
- Pose Estimation using Jetson Nano
- Hand Detection Using Jetson Nano
- Face Detection Using Jetson Nano
- Music Generation Using Pose and Action

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**