

**Online Course**

## MACHINE LEARNING - DEEP LEARNING - NLP

Prepare for the era of Artificial Intelligence and Machine Learning with python. Get a hands-on experience with help of **PROJECTS & RESEARCH**



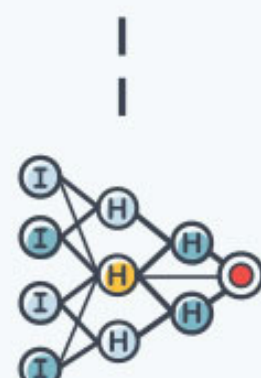
Algorithm



Classification



Learning



Neural Networks



Deep Learning



AI

NOTE- **1st three classes are free\*\***

Starting From - 08-sept-2021

Course Duration - 13 months\*

Course Fee- 1000/month

Classes- 3-5 days/week

REGISTER AT

**<https://bit.ly/3eeez-MachineLearning>**

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OFFERED BY - 3EEEZ-R&D



# COURSE CONTENTS

## Python programming. (2.5 months)

### Programming Concepts

- Intro to Python
- Why python / Features / History
- Data Types
- Operations in Python
- input & Output
- String and Its Operations
- Control Flow & Decision Making
- Functions
- Exceptional Handling, File Handling
- OOP's Concepts
- Module and Packages
- Multithreading & Regular Expression

### Data Structure

- Recursion
- Arrays , Python Lists
- Dictionary, Tuple, Sets
- Linked List & its types
- Stack & Queue
- Tree, BST , Graphs & Hash table

## Python libraries (1.5 months)

- Numpy
- Matplotlib
- Seaborn
- Pandas
- PyQt5

## Computer Vision (1.5 months)

- Mathematics behind
- Image Structure & Formation
- Color space, Conversion , Histogram
- Drawing on images, Image Transformation
- Translation, Rotation, Scaling, Re-sizing, Cropping
- Arithmetic operations, Bitwise operations
- Blurring, Thresholding, Edge Detection
- Object Detection & Tracking

## Mathematics & Statistics (1.5 months)

- Basic Algebra Concepts & Linear Algebra
- Matrix & its operations
- Vectors & Vector space
- Eigen values & Eigen vectors
- Geometry & Straight Line
- Functions, Graphs and Transformation
- Terminologies / Concepts in Statistics
- Mean, Median, Mode
- Normal Distribution
- Measure of Spread

## Machine Learning & Kaggle (2.5 months)

- Intro & Types of Machine Learning
- Feature Space
- Supervised Learning
- Pre-Processing
- Kaggle
- Linear - Multiple Regression
- Gradient Decent
- KNN
- Model Performance Matrix, Under & Over fitting
- Naive Bayes
- Logistic Regression
- Decision Tree ,Random Forest
- SVM
- Model & Feature Selection
- Unsupervised Learning
- kmeans, PCA
- Validation & Hyperparameter Selection
- Advance Machine learning Algorithms

## Deep Learning & CNN (2 months)

- Concepts in Deep Learning
- Linear & Multi-layer perceptron
- Artificial Neural Network terminologies
- Tensor-Flow & Keras
- Gradient Decent Algorithm
- Feed forward, Back Propagation
- Activation Function & Regularization
- Intro to CNN & Terminologies
- Different CNN Models
  - VGG, LeNet, AlexNet, ResNet, RCNN, Fast RCNN, Faster RCNN, SPPNet, SSD, Inspection Network, Yolo
- Transfer Learning
- Generative Adversarial networks
- RNN
- Reinforcement Learning

## Natural Language Processing. (1.5 months)

- Intro to NLP
- Tokenization, Stop-words, Stemming
- Lemmatization, POS tagging
- Named Entity Tagging
- N-Gram Model , TF-IDF
- Soundex Algorithm
- Parsing, Stochastic parsing, Top-down, Bottom-up parsing
- Semantic Processing, Text Classification
- Latent Semantic Analysis ,Vectorizer
- Fast Text Library, Tools For NLP
- Deep learning For NLP



# PROJECTS

## Python programming\_

- Brand Name Generator
- Students Result Card
- Calculating Bills
- Calculate Income Tax
- Number Guessing Game
- Making QR Code
- OTP Generator
- Phone Book
- Password Generator
- PDF to TXT Converter
- Rock Paper Scissor Game
- Hangman Game
- Digital Clock
- Bank Application
- Management System and more....

## Computer Vision

- Face, eyes Detection
- Drawing on Live Camera
- Face Swapper
- Ball Tracker
- Car Number Place Localizer and Recognizer
- Live Sketch
- Hit the Ball Game
- Inserting Logo in Live Stream
- Road Lane Line Detection

## Machine Learning & Kaggle

- Sales Prediction
- Salary Estimation
- MNIST
- Titanic Survival
- Plant Leaf Detection
- Digit Recognition
- Breast Cancer Detection
- Different Case Studies
- Machine Learning in Health Care like Kidney Disease
- Sale Prediction and more...

## Deep Learning & CNN

- Leaf Disease Detection
- Character Recognition
- Vehicle Detection
- License Plate Detection
- Drowsiness Detection
- Covid Detection
- Mask Detection
- Happiness Detection
- Smart Attendance System
- Medical disease Detections and more...

## Natural Language Processing.

- Text Classification
- Twitter Sentiment Analysis
- Text Summarization
- CV Parsing
- Emotion Recognition in Text Data
- Restaurant Review Prediction
- Spam Filter
- Information Extraction
- Word2Vec Analysis and more....