ARTIFICIAL INTELLIGENCE USING PYTHON (SCHOOL)

SYSTEMS REQUIREMENTS:

- All the participants must be in 8th Grade or Higher
- Participants must carry a Laptop or System with Webcam
- Knowledge of Languages like c++ or python
- System must have Windows OS (64 Bit) RAM Minimum 4GB
- High Speed Internet is must for Artificial Intelligence Topics

DAY 1:

PYTHON-INTRODUCTION
AI – INTRODUCTION

- What is Artificial Intelligent
- Machine Learning vs. Data Science vs. AI
- How leading companies are harnessing the power of Data Science with Python?
- Different phases of a typical Analytics/Data Science projects and role of python
- Anaconda vs. Python
- AI flow to code
- Regression vs. Classification
- Features, Labels, Class
- Supervised Learning, Semi-Supervised and Unsupervised Learning
- Discussion on Various AI Learnings
- AI Agents
- Use Cases

ARTIFICIAL NEURAL NETWORKS

- Introduction
- Perceptron
- Logic gates
- AND, OR, NOT Gates
- ANN & Working
- Single Layer Perceptron Model

OPEN CV

- Introduction Computer Vision
- Basics - Syntaxes

- Reading an Image
- Starting Video CAM
- Reading from a Video
- Drawing Over an Image
- Mouse Handling
- Read, Write and Display Videos

IMAGE TRANSFORMATIONS

- Image Transformation
- Color Detection
- Affine Transformation
- Homography Transformation
- Perspective Transformation

FACE DETECTION

- Face Detection using HaarCascades
- Face Detection using Deep Learning
- Full Body Detection
- Eye & Smile Detection using OpenCV & HaarCascades
- **People Counter using Face Detection**

DAY 2

CHATBOTS
- Introduction – Chatbots
- Architecture
- **Designing**
- **Use Cases**

Introduction to Artificial Intelligence with Python
- Learn to use Jupyter Notebooks
- Learn about external libraries for Machine Learning and NLP
- Learn to design a chatbot (a program that chats with you)
- Learn NLP and the NLTK library
- Hands-on Guided Projects and introduction to pre-built agents

PROJECTS

- Python Programming Projects
- AI Based Face Detection using Image
- Full Body Detection using Video
- Eye & Smile Detection using Video

- **People Counter using Face Detection**
- Creating Basic Chatbot (Auto Answers to Question by Bots)
- School Management System Chatbots