

**COURSE CONTENTS**  
**ARTIFICIAL INTELLIGENCE & MACHINE LEARNING**  
**(15 DAYS)**

<b>MODULES</b>	<b>CONTENTS</b>
<b>DAY1</b>	<p>INTRODUCTION</p> <ul style="list-style-type: none"> <li>➤ What is Artificial Intelligence &amp; Machine Learning</li> <li>➤ Application of AI &amp; ML</li> <li>➤ Introduction to Machine Learning</li> <li>➤ Types of Machine Learning</li> <li>➤ Introduction to Anaconda Environment, installation, Introduction to Python</li> </ul>
<b>DAY 2</b>	<p>PYTHON FUNDAMENTAL</p> <ul style="list-style-type: none"> <li>➤ Python Basics</li> <li>➤ String Functions</li> <li>➤ Arithmetic Operators</li> <li>➤ Comparison Operator</li> <li>➤ Python List, Python Dictionary</li> <li>➤ If else structure, For loop, While loop</li> </ul>
<b>DAY3</b>	<ul style="list-style-type: none"> <li>➤ Functions, Object oriented Programming</li> <li>➤ Python Packages for Machine Learning</li> <li>➤ Numpy</li> </ul>
<b>DAY 4 &amp; 5</b>	<ul style="list-style-type: none"> <li>➤ PANDAS, Data cleaning</li> <li>➤ MATPLOTLIB, SEABORN</li> <li>➤ Data Analysis on different data set</li> </ul>
<b>DAY 6</b>	<ul style="list-style-type: none"> <li>➤ Linear Regression</li> <li>➤ Concept of R<sup>2</sup> score, Mean square error</li> <li>➤ Case studies on linear regression</li> </ul>
<b>DAY 7</b>	<ul style="list-style-type: none"> <li>➤ Classification problem</li> <li>➤ Logistic Regression</li> <li>➤ Confusion Matrix, Precision, Recall</li> <li>➤ Support Vector Machines</li> <li>➤ Algorithm to solve Supervised Learning Problem</li> <li>➤ Practice on Case Studies</li> </ul>
<b>DAY 8</b>	<ul style="list-style-type: none"> <li>➤ Navier Bayes Algorithm</li> <li>➤ KNN Algorithm</li> <li>➤ Case Studies</li> </ul>

<b>DAY 9</b>	<ul style="list-style-type: none"> <li>➤ KMeans Clustering</li> <li>➤ Anomaly Detection</li> <li>➤ Algorithm to solve Unsupervised Learning problems</li> <li>➤ Case Studies</li> <li>➤ Introduction to Computer Vision</li> <li>➤ Image Processing</li> <li>➤ Understanding colour maps</li> </ul>
<b>DAY 10</b>	<ul style="list-style-type: none"> <li>➤ Feature Extraction</li> <li>➤ Gaussian blurr</li> <li>➤ Canny edge detection</li> <li>➤ Image segmentation</li> <li>➤ Line detection-Hough Transform</li> <li>➤ Harcaascade classifier</li> </ul>
<b>DAY 11</b>	<ul style="list-style-type: none"> <li>➤ Introduction to Artificial Neural Networks</li> <li>➤ Single layer perceptron</li> <li>➤ Multi layer Perceptron</li> <li>➤ Introduction to Keras</li> <li>➤ Feed forward process, back propagation, error function</li> <li>➤ Regression and classification problem using Keras.</li> </ul>
<b>DAY 12</b>	<ul style="list-style-type: none"> <li>➤ MNIST image recognition</li> <li>➤ Convolutional neural network architecture</li> <li>➤ Convolutional layer, pooling layer, fully connected layer</li> </ul>
<b>DAY 13 &amp; 14</b>	<ul style="list-style-type: none"> <li>➤ Classifying road symbols</li> <li>➤ Augmentation technique</li> <li>➤ Project of self driving car</li> </ul>
<b>DAY 15</b>	<ul style="list-style-type: none"> <li>➤ Introduction to Natural Language Processing</li> <li>➤ Textblob, predefined functions of NLTK</li> <li>➤ Vectorizer</li> <li>➤ Developing Chatbot</li> <li>➤ Case studies</li> </ul>