

Artificial Intelligence with Python

Modules	Content
Module 1	<p>Introduction to Artificial Intelligence</p> <ul style="list-style-type: none"> ● What is Artificial Intelligence ● History of Artificial Intelligence ● Use Cases of Artificial Intelligence ● Role of Machine Learning Engineer ● Machine Learning Tools & Packages <p>Introduction to python programming</p> <ul style="list-style-type: none"> ● Python Data Structures ● Python Programming Fundamentals ● Conditions and Branching ● Loops ● Functions ● Python Packages
Module 2	<p>Python for Data Science</p> <ul style="list-style-type: none"> ● Working with NUMPY ● Working with Pandas ● Introduction to Data Visualization ● Introduction to Matplotlib and Seaborn ● Basic Plotting with Matplotlib and Seaborn
Module 3	<p>Data Wrangling Techniques</p> <ul style="list-style-type: none"> ● Introduction to Data preprocessing ● Importing the Dataset ● Handling Missing data ● Working with categorical Data ● Splitting the data in to Train and Test set ● Feature Scaling
Module 4	<p>Introduction to Neural Networks</p> <ul style="list-style-type: none"> ● The Neuron ● The Activation Function ● How do Neural Networks work? ● How do Neural Networks learn? ● Gradient Descent ● Stochastic Gradient Descent ● Backpropagation <p>Introduction to Keras Framework</p> <ul style="list-style-type: none"> ● Introduction to the Sequential Mode ● Activation functions

	<ul style="list-style-type: none"> • Layers • Training • Loss function • Building ANN Using Tensor flow using sample dataset • Evaluating Improving and Tuning ANN
Module 5	<p>Introduction to Convolutional Neural Networks</p> <ul style="list-style-type: none"> • What are convolutional neural networks? • Step 1 - Convolution Operation • Step 1(b) - ReLU Layer • Step 2 - Pooling • Step 3 - Flattening • Step 4 - Full Connection <p>Classification of images using CNN</p> <ul style="list-style-type: none"> • Evaluating, Improving and Tuning the CNN
Module 6	<p>Introduction to Recurrent Neural Networks</p> <ul style="list-style-type: none"> • The idea behind Recurrent Neural Networks • The Vanishing Gradient Problem • LSTMs • LSTM Variations <p>Predicting Google stock prices using RNN</p> <ul style="list-style-type: none"> • Evaluating, Improving and Tuning the RNN
Module 7	<p>Introduction to Natural Language Processing</p> <ul style="list-style-type: none"> • Introduction to NTLK • Bag of Words model • Natural Language Processing in Python • Sentiment analysis using Natural Language Processing
Module 8	<p>Introduction to different modes of Deployments</p> <ul style="list-style-type: none"> • Working with the Flask framework • Building an application with Flask Framework • Integrating Deep learning model with Web Application • Introduction to IBM Python Flask APP • Deploying Python Flask application on IBM Python
Module 9	<p>Introduction to IBM Cloud Services</p> <ul style="list-style-type: none"> • Introduction to IBM Cloud • Introduction to AI in IBM cloud • Introduction to Watson Studio • Building Machine learning model in Watson Studio • Deploying Deep Learning Models as web services
Module 10	<p>Introduction to Auto AI</p> <ul style="list-style-type: none"> • Building a Machine Learning Model Using Auto AI • Introduction to IBM Node-red • Integrating Machine

	<p>Learning model to IBM Node-red</p> <ul style="list-style-type: none">• Building Web Application
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