



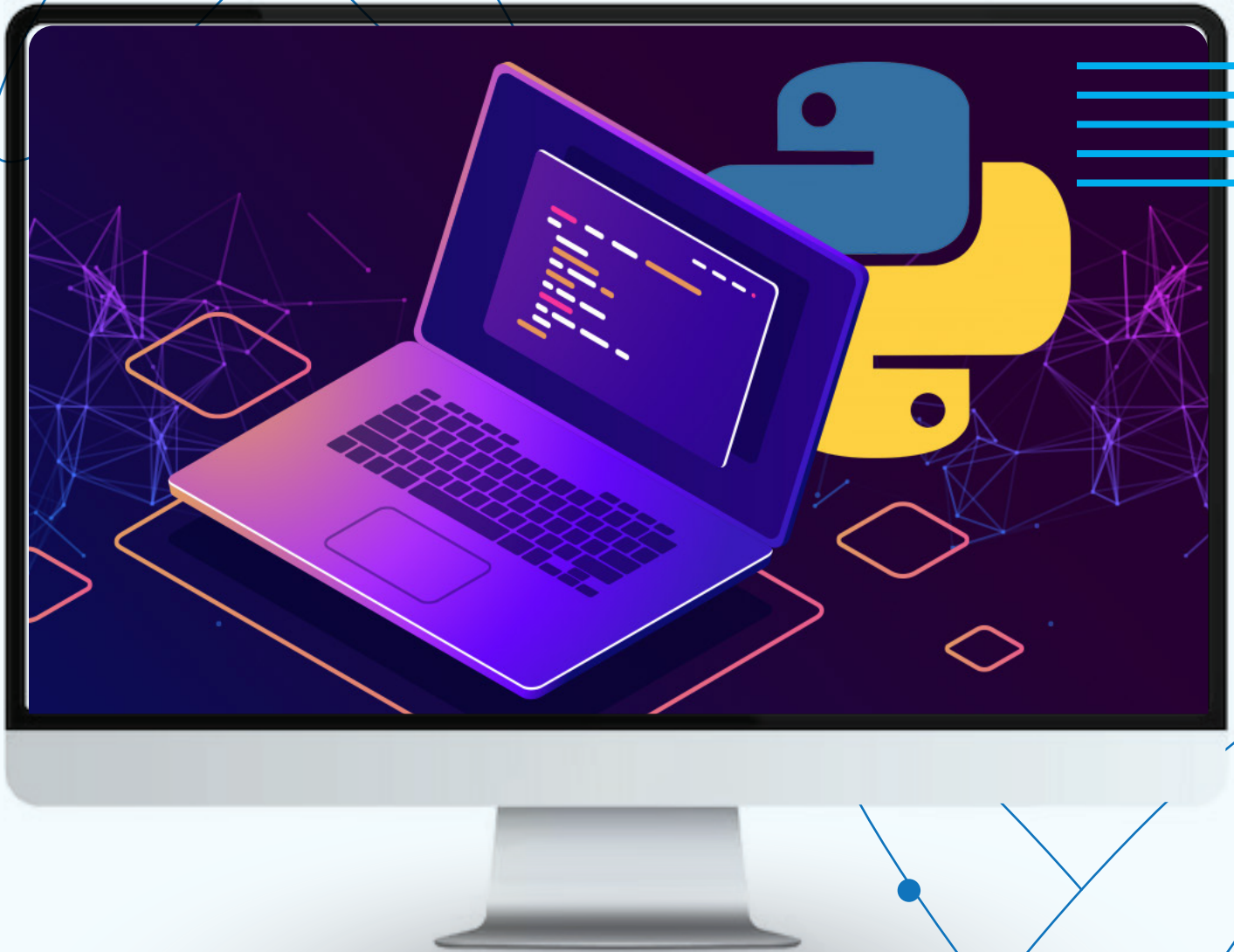
TECHNOEDIFY

Futuristic Technology Education

PYTHON

Programming For AI

24 Sessions | For Age 6+ years



www.techno-edify.com

Outcome of Python Programming for AI - Training

- Fundamentals of programming using Python-3 Programming Language
- Learn to practically solve various Mathematical and Science problems
- Covers all the important concepts in Python such as Data Types, Loops, Conditions, Functions, OOPS, Errors and Exceptions Handling, etc...
- Provides flexibility to build scripting for Robotics, Internet of Things (IoT), Artificial Intelligence (AI), Machine Learning (ML) and other innovative science projects.
- Improves Logical thinking, Analytical, Debugging and Problem-Solving Skills
- Provides a medium for Inventing, Innovative products for the future
- 6 Artificial Intelligence projects will be developed using Python during the course:
 - Speech-To-Text
 - Text-To-Speech
 - Intelligent Chat-Bot
 - Face-Recognition using Machine Learning
 - Gaming Application
 - Web-Scrapping for Fake-News detection

Why Python Programming training from Techno-Edify Robotics Academy

- Techno-Edify Academy has been awarded Top 10 Education Institutes in India 2021 by Silicon India
- Certified faculty with Industrial expertise of over 20+ years
- Course curriculum is designed for futuristic technologies - Robotics, Internet of Things (IoT), Artificial Intelligence (AI) and Machine Learning (ML).
- Study and Training material will be provided during the course
- Training includes Theory as well as Practical
- Assignments will be provided to the students, which will help them practice at home.
- Video Recordings will be made available
- Performance based Industry Recognized Certificate will be provided after successful completion of the course.

Eligibility

- Students who have 12+ years can join this training
- No prior programming experience required
- Anyone who wants to develop or enhance Programming Skills





DETAILED SYLLABUS

SR. NO.	LEARNING OBJECTIVE	ACTIVITY
Session 1 1 Hour	Introduction to Programming & Python	<ul style="list-style-type: none"> ◦ Introduction to Programming & Python ◦ How is Programming useful? ◦ Applications of Python ◦ Course Curriculum - Overview
Session 2 1 Hour	Python Environment Setup	<ul style="list-style-type: none"> ◦ Python Programming Environments ◦ Python Installation and Environment setup ◦ Basic Examples in Python
Session 3 1 Hour	Data Type - Integers and Floats	<ul style="list-style-type: none"> ◦ Introduction to Python Data Types ◦ Integers & Floats in Python ◦ Operators in Python ◦ Variables
Session 4 1 Hour	Data Type – Strings	<ul style="list-style-type: none"> ◦ Introduction to Strings ◦ String Operations ◦ String Indexing and Slicing ◦ String Methods
Session 5 1 Hour	Print Formatting	<ul style="list-style-type: none"> ◦ Print Formatting ◦ .format Method ◦ F-string literals Method
Session 6 1 Hour	Data Type – Lists	<ul style="list-style-type: none"> ◦ Lists in Python ◦ Creating a list ◦ List Indexing & Slicing ◦ Basic List Methods
Session 7 1 Hour	Data Type – Sets & Booleans	<ul style="list-style-type: none"> ◦ Sets & Booleans in Python ◦ Creating Sets ◦ Basic Sets Methods ◦ Conditional Operators ◦ Boolean Operations




DETAILED SYLLABUS

SR. NO.	LEARNING OBJECTIVE	ACTIVITY
Session 8 1 Hour	Data Type – Dictionaries & Tuples	<ul style="list-style-type: none"> ◦ Creating Dictionaries ◦ Dictionary Operations ◦ Dictionary Methods ◦ Creating Tuples ◦ Advantages of Dictionaries and Tuples
Session 9 1 Hour	Assessment & Exercises	<ul style="list-style-type: none"> ◦ Student assessment
Session 10 1 Hour	Methods & Functions	<ul style="list-style-type: none"> ◦ Introduction to Functions & Methods ◦ Defining a function ◦ Functions with arguments ◦ Default arguments ◦ Return statement in Functions
Session 11 1 Hour	AI Project: Text-To-Speech Converter in Python 	<ul style="list-style-type: none"> ◦ Text-To-Speech is an application to convert the given text into a speech audio. The audio can be played on the computer speaker or stored in a .mp3 ◦ Students will learn to implement Text-To-Speech as part of this project and use this module to develop more advanced AI projects.
Session 12 1 Hour	AI Project: Speech-To-Text Converter in Python 	<ul style="list-style-type: none"> ◦ Speech Recognition is an important feature in several applications, such as in home automation, artificial intelligence, etc. ◦ Speech-to-Text is an application to record your voice, convert it into text and then display the text on-screen. ◦ Students will learn to implement Speech-To-Text as part of this project and use this module to develop more advanced AI projects.

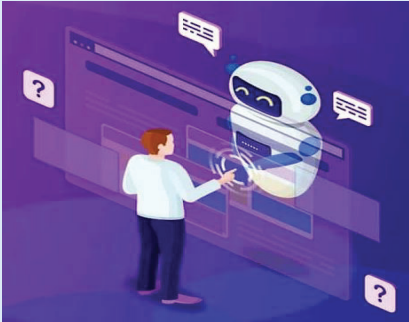
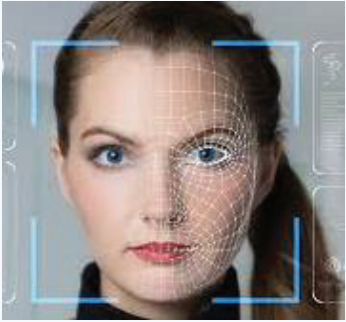


DETAILED SYLLABUS

SR. NO.	LEARNING OBJECTIVE	ACTIVITY
Session 13 1 Hour	Statements - If-elif-else in Python	<ul style="list-style-type: none"> ◦ Conditional statements (if, elif & else, ..) ◦ Logic building exercises using “if” conditions
Session 14 1 Hour	Statements - for loops	<ul style="list-style-type: none"> ◦ Introduction to Loops in Python ◦ For loops ◦ Logic building exercises using “for” loops
Session 15 1 Hour	Statements – while loops	<ul style="list-style-type: none"> ◦ While loops in Python ◦ Do and Don’ts in loops ◦ Break statement ◦ Continue statement ◦ Logic building exercises using “while” loops
Session 16 1 Hour	Errors & Exception Handling	<ul style="list-style-type: none"> ◦ Introduction to Errors and Exception handling ◦ Try, Except and Finally blocks ◦ Exercises on exception handling
Session 17 1 Hour	Modules & Packages	<ul style="list-style-type: none"> ◦ Introduction to Modules & Packages ◦ Creating your own modules and libraries
Session 18 1 Hour	Gaming Project: Tic–Tac–Toe Game in Python 	<ul style="list-style-type: none"> ◦ Tic-Tac-Toe is a grid of 3-by-3 squares. It’s a twoplayer game between 2 people putting noughts and crosses in the grids to win. ◦ The gaming project will help the students build logical thinking, designing and analyzing skills




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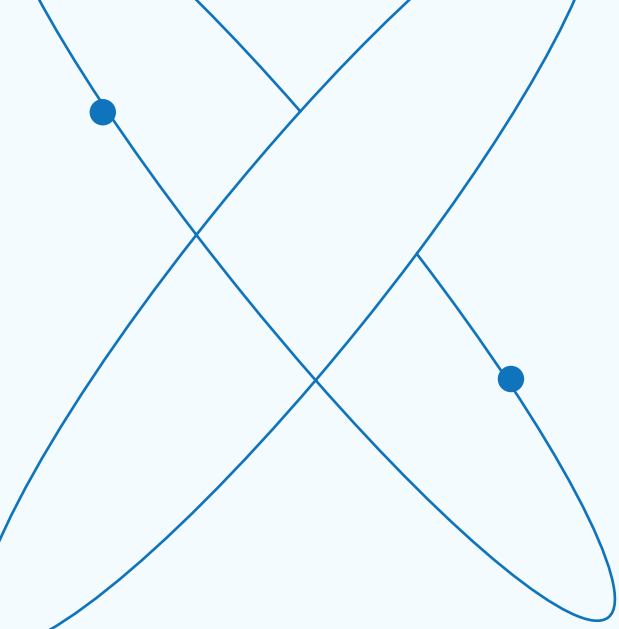
SR. NO.	LEARNING OBJECTIVE	ACTIVITY
Session 19 1 Hour	Object Oriented Programming (OOP)	<ul style="list-style-type: none"> Classes and Objects in Python Creating class attributes Creating methods in a class
Session 20 1 Hour	OOP – Inheritance and Polymorphism	<ul style="list-style-type: none"> Polymorphism in OOP Inheritance in OOP
Session 21 1 Hour	AI Project Chat-Bot	 <ul style="list-style-type: none"> Natural language processing (NLP) is one of the most promising fields of AI that uses natural languages to enable human interactions with machines. A chatbot is a computer software able to interact with humans using a natural language. Apple's Siri, Amazon's Alexa, Google Assistant, and Microsoft's Cortana are some well-known examples of software able to process natural languages. In this project, the students will learn to create a simple chatbot in Python. Our bot will be used for small talk, as well as to answer some math questions.
Session 22 1 Hour	AI Project Face Detection	 <ul style="list-style-type: none"> Face detection uses computer vision to extract information from images to recognize human faces. In this project, we will learn how to create a face detection system using python in easy steps. The input to the system will be in real-time via the webcam of the computer.



DETAILED SYLLABUS

SR. NO.	LEARNING OBJECTIVE	ACTIVITY
Session 23 1 Hour	HTML Programming	<ul style="list-style-type: none"> ◦ Introduction to HTML Programming ◦ Introduction to Web-Scraping
Session 24 1 Hour	Web-Scraping Project: Data Extraction using Web Scraping 	<ul style="list-style-type: none"> ◦ Web scraping is a technique to automatically access and extract large amounts of information from a website, which can save a huge amount of time and effort. ◦ Students will learn to understand HTML web-pages ◦ and extract useful information from the websites such ◦ as extracting News headlines, Date and Time, Weather ◦ reports, etc.





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