



Python Full Stack

with

AI Training



PYTHON FULL STACK

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About Next IT Career

Next IT Career Best Software Coaching Center in Hyderabad Corporate training is a function of human resource management that aims to provide the organization's employees with the knowledge and skills required to be successful. In turn, the growth of employees also contributes to the success of the business. In recent years, its also seen as a long-term strategic assignment rather than a cost center for the organization. The majority of companies have embraced 'continual learning' in it to promote employee growth both professionally and personally and acquire a highly skilled workforce as a result.



Corporate Training



Classroom Training



Online Training

Why Choose Us?



**Training by
Certified Instructors**



Weekly Assignments



Project Training



Resume Preparation



Mock Interviews



**Interview cracking
tips**

Program Overview

The Python Full Stack with AI Integration program is a comprehensive, industry-oriented training course designed to equip students with the technical knowledge, practical experience, and problem-solving skills required to build modern software applications and pursue careers in software development and artificial intelligence.

This program combines Python programming, Data Structures & Algorithms (DSA), database management, full stack web development, data analytics, and artificial intelligence into a structured learning path. Students' progress from programming fundamentals to developing complete web applications and integrating machine learning models into real-world projects.

The curriculum emphasizes hands-on learning, industry best practices, and project-based development. Throughout the training, students work on coding exercises, assignments, mini-projects, and capstone projects that reinforce theoretical concepts through practical implementation.

The course focuses on developing five essential competencies:

- Problem Solving using Python programming and algorithmic thinking.
- Data Analytics using SQL, NumPy, Pandas, and data visualization techniques.
- Full Stack Web Development using HTML, CSS, JavaScript, React, Django, and Django REST Framework.
- Artificial Intelligence Integration through machine learning fundamentals and AI-enabled web applications.
- Writing Fast and Efficient Code by applying optimization techniques, selecting appropriate data structures, and following clean coding practices.

In addition to technical skills, the program prepares students for the software industry by covering Git and GitHub workflows, deployment concepts, interview preparation, mock interviews, and professional project presentation techniques.

By the end of the training, participants will have the confidence and practical experience to design, develop, test, and deploy full stack applications, perform data analysis, build AI-powered solutions, and demonstrate their skills through a portfolio of real-world projects.

Python

- Variables, Data Types, Operators, Control Statements,
- Data structures lists, Tuples, Sets, Dictionaries
- Modular programming, Functions, recursion, modules, packages
- Exception handling and file handling

Object-Oriented Programming with Python

- Classes, Objects, Inheritance, Polymorphism

Data Structures & Algorithms Foundations

- Arrays, Strings, Stack, Queue, Linked Lists, Searching, Sorting, Big-O Analysis

Problem Solving & Coding Practices

- Coding Patterns, Logic Building, Debugging, Code Optimization, Interview Programming

Database Programming & Data Analytics

- Introduction to Database Management Systems (DBMS)
- Relational Database Concepts, Tables, Rows, and Columns
- Keys: Primary Key & Foreign Key

SQL Programming

- SQL Syntax and Data Types, DDL Commands (CREATE, ALTER, DROP, TRUNCATE)
- DML Commands (INSERT, UPDATE, DELETE), DQL (SELECT)
- WHERE, ORDER BY, GROUP BY, HAVING, Aggregate Functions
- Joins (INNER, LEFT, RIGHT, FULL, SELF), Subqueries, Views, Indexes

Data Processing with Python

- NumPy: Arrays and Mathematical Operations, Pandas Series and Data Frames, Data Cleaning
- Data Transformation
- Handling and Reading and Writing CSV Files, Reading and Writing JSON Files
- Exploratory Data Analysis (EDA), Understanding Datasets
- Hands-on Mini Project

Full Stack Web Development

Frontend Web Development

HTML5

- Introduction to HTML5
- Document Structure
- Semantic HTML
- Headings, Paragraphs, Lists
- Hyperlinks
- Images
- Tables
- Forms and Validation
- Multimedia (Audio & Video)
- HTML Best Practices

CSS3

- CSS Fundamentals
- Selectors
- Colors

- Typography
- Box Model
- Display Properties
- Positioning
- Flexbox
- CSS Grid
- Responsive Web Design
- Media Queries
- Animations & Transitions

JavaScript Programming

- JavaScript Fundamentals
- Variables & Data Types
- Operators
- Control Statements
- Loops
- Functions
- Objects
- Arrays
- ES6 Features
- Arrow Functions
- Template Literals
- Destructuring
- Modules

DOM Manipulation

- DOM Structure
- Selecting Elements
- Event Handling
- Dynamic HTML
- Form Validation
- Timers
- Local Storage
- Session Storage

API Handling

- HTTP Methods
- REST APIs
- Fetch API
- JSON Processing
- Async Programming
- Promises
- Async/Await
- Error Handling

React Development (React Fundamentals)

- React Architecture
- Components
- JSX

- Props
- State
- Event Handling
- Conditional Rendering
- Lists & Keys

React Hooks

- useState
- useEffect
- useContext
- useReducer
- useRef
- Custom Hooks

Routing

- React Router
- Navigation
- Dynamic Routes
- Protected Routes

API Integration

- Axios
- CRUD Operations
- Authentication

- Loading Indicators
- Error Handling

Backend Development with Django

Django Fundamentals

- Django Architecture (MVT)
- Project Structure
- Apps
- URL Routing
- Views
- Templates
- Static Files

ORM

- Models
- Migrations
- Relationships
- QuerySets
- CRUD Operations
- Model Managers

Authentication & Authorization

- User Registration
- Login & Logout
- Password Hashing

- Permissions
- Groups
- Role-Based Access Control (RBAC)

Django REST Framework (DRF)

- REST API Concepts
- Serializers
- API Views
- Generic Views
- ViewSets
- Routers
- Authentication
- JWT Authentication
- API Testing
- Pagination
- Filtering

Version Control (GIT)

- Git Installation
- Repository Creation
- Commit
- Branching
- Merge
- Conflict Resolution

GitHub

- GitHub Repository
- Push & Pull
- Pull Requests
- Code Review
- GitHub Workflow
- Collaboration

Artificial Intelligence

- AI vs ML vs Deep Learning
- Linear Algebra, Probability, Statistics, Regression
- Decision Trees , Random Forest
- K-Means Model Evaluation
- Integrating ML with Django APIs
- AI predictions in React applications

Writing Fast & Efficient Code

- Time & Space Optimization
- Choosing Data Structures
- Single-pass Logic
- List Comprehensions
- Generators
- Efficient String & Dictionary Operations
- Clean Code, modular, maintainable code practices

Deployment Basics

- Frontend Deployment
- Backend Deployment
- Environment Variables
- Basic Cloud Awareness

Interview Preparation

- Python Interviews
- SQL Interviews
- Problem Solving
- Project Explanation
- Mock Interviews

Capstone Projects

- Full Stack Web Application
- Data Analytics Project
- Machine Learning Prediction System
- AI-integrated Web Application

Final Skill Outcomes

- Problem-solving
- Data Analysis & Visualization
- Full Stack Development
- Machine Learning
- AI-powered Applications
- Professional Coding Practices

Our Other Courses

Trending Software Testing courses

Playwright Automation 

Selenium Automation 

Tocsa 

ETL Testing 

Performance Testing 

API Testing 

Load runner 

J-meter 

Neo load 

Manual Testing 

Most Trending Courses

Data Science 

Data Analytics 

Scrum Master 

Most Demand Courses

AWS DevOps 

Azure DevOps 

Power BI 

Java Full Stack 

Python Full Stack 

Cyber Security 

Our Recruitment Partners



Our Branch



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Our Infrastructure

