

DarkCodeIT
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PY

• DARKCODEIT LEARNING PATH

Python Roadmap

From Beginner to Advanced Python Developer

5
LEVELS

30+
TOPICS

5
CORE LIBRARIES

6
CAREER PATHS

darkcodeit.com — Build real Python skills, one level at a time.

● THE PATH

Complete Python Roadmap

Five structured levels that take you from your first line of code to production-ready systems.

LEVEL 01

BEGINNER

Python Fundamentals

Set up your environment and learn the building blocks every Python program is made of.

- ✓ Python Installation
- ✓ Variables
- ✓ Operators
- ✓ Comments
- ✓ Syntax
- ✓ Data Types
- ✓ Input / Output

LEVEL 02

BEGINNER

Python Core

Learn to control program flow, organize logic, and handle the unexpected.

- ✓ Conditional Statements
- ✓ Functions
- ✓ Error Handling
- ✓ Loops
- ✓ Modules
- ✓ File Handling

LEVEL 03

INTERMEDIATE

Object Oriented Programming

Model real-world systems with classes, and master the four pillars of OOP.

- ✓ Classes
- ✓ Inheritance
- ✓ Encapsulation
- ✓ Objects
- ✓ Polymorphism

LEVEL 04

ADVANCED

Advanced Python

Go beyond the basics with the tools that make Python code efficient and scalable.

- ✓ Decorators
- ✓ Iterators
- ✓ Multithreading
- ✓ Generators
- ✓ Virtual Environment
- ✓ Multiprocessing

LEVEL 05

PROFESSIONAL

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Professional Python

Build, test, and ship real software the way production teams do.

- ✓ API Development
- ✓ Testing
- ✓ Deployment
- ✓ Automation
- ✓ Database Integration

● WHERE PYTHON TAKES YOU

The Python Ecosystem

One language, six directions.

Data Science

AI

Machine Learning

Web Development

Automation

Cyber Security

● TOOLS OF THE TRADE

Python Library Roadmap

The five libraries every serious Python developer eventually reaches for.

NumPy

Numerical computing & arrays

1. Basics
2. Arrays
3. Indexing
4. Mathematical Operations
5. Linear Algebra
6. Advanced Computing

Pandas

Data analysis & manipulation

1. Series
2. DataFrame
3. Data Cleaning
4. Data Analysis
5. Visualization
6. Advanced Operations

Matplotlib

Plotting & visualization

1. Charts
2. Plots
3. Customization
4. Animation
5. Data Visualization

PyTorch

Deep learning framework

1. Tensor
2. Neural Network
3. Deep Learning
4. Training Models
5. Deployment

Flask

Lightweight web framework

1. Routing
2. Templates
3. Database
4. REST API
5. Authentication
6. Deployment

● WHERE IT LEADS

Career Roadmap

Every path below starts from the same root: a working knowledge of Python.

Backend Developer

APIs, databases & server logic

Data Analyst

Insights from raw data

Data Scientist

Models that explain data

ML Engineer

Ships models to production

AI Engineer

Builds intelligent systems

Automation Engineer

Scripts that replace busywork

● LEARN BY BUILDING

Project Roadmap

A project journey mapped to your skill level.

BEGINNER**BEGINNER****Calculator**

A CLI tool for everyday arithmetic.

[Python](#)**BEGINNER****Number Guessing Game**

Loops, conditionals and randomness.

[Python](#)**BEGINNER****Password Generator**

Strings, randomness & security basics.

[Python](#)**INTERMEDIATE****INTERMEDIATE****Blog Website**

Full CRUD web app with templates.

[Flask](#) • [SQLite](#)**INTERMEDIATE****Weather App**

Consume a live API and render results.

[Python](#) • [REST API](#)**INTERMEDIATE****REST API**

Design and ship your own endpoints.

[Flask](#) • [PostgreSQL](#)**ADVANCED****ADVANCED****AI Chatbot**

Conversational agent with NLP.

[PyTorch](#) • [NLP](#)**ADVANCED****Recommendation System**

Suggest content from user behavior.

[Pandas](#) • [NumPy](#)**ADVANCED****ML Platform**

Train, track and deploy models end-to-end.

[PyTorch](#) • [Flask](#) • [Docker](#)

YOUR PYTHON JOURNEY

Starts Here

Five levels. Five libraries. Six careers. One line of code at a time.

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