

PYTHON ROADMAP FROM ZERO TO HERO

REQUIREMENTS

- Start learning Python [with this 100 Days of Code playlist](#). Learn the basics of Python. [Download my Hand Written Python Notes from here](#)
 - Basic Syntax
 - Modules & PIP
 - Variables & Datatypes
 - Conditionals and Loops
 - Functions & Recursion
 - List, Tuple, Sets, Dictionaries
 - File I/O
 - If you prefer to learn in English, there is [this awesome course](#) on Udemy
 - Also, you can check this 12 hour [one shot video in English](#).
- Advanced Python
 - Iterators
 - Regex
 - Decorators
 - Lambdas
 - List Comprehensions
 - Exception Handling
- Object Oriented Programming
 - Classes & Objects
 - Methods
 - Inheritance
 - Projects based on Oops.
- Data Structures & Algorithms – You don't have to master DSA in the beginning, just have some basic idea of:
 - Time Complexity
 - Arrays
 - Linked lists
 - Stacks
 - Queues
 - Binary Search Trees
 - Sorting Algorithms
- ML/DS – If you want to transition to Data Science and AI/ML, focus on these topics once you have some good hold of Python:
 - Start learning Data Science from this book [Python for Data Analysis by Wes MC Kinny](#). This book also has a Python refresher chapter.
 - Grab a copy of [this book](#): Hands on ML with Scikit-learn and Tensorflow (Author of this book also maintains constantly updating [Github Repo](#))
 - Watch this project video I created on an [End-to-End ML Project](#)
 - For learning basics of ML [this playlist will help you out](#).
 - TensorFlow

- Scikit Learn
- NumPy. Learn it from Numpy Quickstart guide [here](#).
- Pandas. Learn it from [10 Minutes of Pandas](#).
- Matplotlib / Seaborn from the official guide [here](#).
- Web Dev Frameworks
 - Flask – Checkout [this video](#).
 - Django – Checkout [this video](#).
 - Fast API – Checkout [this video](#).
- Game Libraries & GUI [Optional]
 - Learn [Tkinter](#) for making GUIs
 - Learn [PyGame](#) for making games in Python
- If you want to get into Web Scraping, learn:
 - Requests
 - BS4/ BeautifulSoup – Watch this video
 - Selenium
 - PyAutoGUI
- Tools to speedup your workflow
 - Git & GitHub – Checkout [this video](#).
 - Ollama – Check [this video](#) out.
 - GitHub Copilot – Get it [for free here](#).

PROJECTS

Create some real-world projects like these and spend some time on these Python [Practice Programs](#).

- 5 Python [projects in one video](#).
- [JARVIS AI Agent](#).
- [Flappy Bird](#).
- [Indian Railway Announcement System](#).
- [End to End ML Project](#).
- [Umpire Decision Review System \(DRS\)](#).

RESOURCES

- These are some comprehensive resources that I recommend you are learning Python.
 - [Python Documentation](#).
 - [Learning Python – O'Reilly](#).
 - [Python Course by Dr. Angela Yu](#) on Udemy