

# ■ Python to AI Roadmap (12 Months)

## ■ Month 1: Python Basics

- Variables, data types, conditions, loops
- Functions, OOP, file handling
- Mini projects: Calculator, To-do app

## ■ Month 2: Data Handling in Python

- NumPy, Pandas
- Matplotlib, Seaborn
- Project: Student marks analysis

## ■ Month 3: Math for AI

- Linear Algebra, Probability, Statistics
- Project: Simulate dice & probability

## ■ Months 4–5: Machine Learning

- Scikit-learn
- Supervised & Unsupervised learning
- Projects: House price prediction, Spam detection

## ■ Months 6–7: Deep Learning

- TensorFlow / PyTorch
- CNN, RNN, LSTM
- Projects: Handwritten digit recognition, Image classifier (cats vs dogs)

## ■ Months 8–10: Specialization

- Computer Vision (OpenCV, YOLO)
- NLP (NLTK, Transformers)
- Project: Chatbot / Object detection

## ■ Months 11–12: Deployment & Real-World AI

- Flask / FastAPI
- Streamlit / Gradio
- Cloud basics (AWS/GCP)
- Capstone Project: AI Web App

## ■ Tips:

1. Practice 2–3 theory → projects
2. GitHub code
3. Kaggle dataset practice
4. English improve → documentation