AI Mastery Roadmap

Stage 1: Foundation (Weeks 1-4)

What to Learn

- Math Basics:

  - Linear Algebra

  - Probability and Statistics

  - Basic Calculus

- Python for AI:

  - NumPy

  - Pandas

  - Matplotlib

- CS Fundamentals:

  - Algorithms (search, sort, recursion)

Tools

- Book: "Hands-On Machine Learning" (early chapters)

- YouTube: 3Blue1Brown's Linear Algebra Series

Goal

- Solve basic math problems

- Write clean Python code

Stage 2: AI Core Concepts (Weeks 5-12)

What to Learn

- Classical AI:

- DFS, BFS, A*

  - Constraint satisfaction

  - Logic & Reasoning

- Machine Learning:

  - Supervised Learning

  - Unsupervised Learning

- Intro to Deep Learning:

  - Neural Networks Basics

Tools

- Book:

  - "Artificial Intelligence: A Modern Approach"

  - "Hands-On Machine Learning" (ML parts)

Goal

- Build small ML projects

- Kaggle mini competitions

Stage 3: Specialization (Months 4-7)

What to Learn

- Deep Learning Mastery:

  - CNNs, RNNs, LSTMs

  - Transformers

- Special Domains:

  - NLP (chatbots, text analysis)

  - Computer Vision (image classifiers)

Tools

- Book: "Deep Learning" by Ian Goodfellow

- Frameworks: TensorFlow or PyTorch

Goal

- Build advanced projects:

  - Image Classifier

  - Chatbot

  - Text Summarizer

Stage 4: Mastery and Professional (Months 8-12)

What to Learn

- Reinforcement Learning Basics

- GANs

- Advanced Optimization

- Deployment and Scalability

Tools

- Read AI research papers

- Contribute to open-source AI projects

Goal

- Publish a project/research

- Build a strong GitHub portfolio

Bonus Habits

- 2-3 hours daily practice

- Project Day every Sunday

- Track public progress (GitHub, LinkedIn)

Visual Summary

Stage	Focus	Duration
1. Foundation	Math + Python	1 month
2. Core Concepts	AI Fundamentals + ML	2 months
3. Specialization	DL, NLP, CV	3 months
4. Mastery	RL, GANs, Deployment	4 months

Final Quote

"You won't master AI by reading. You master AI by building."