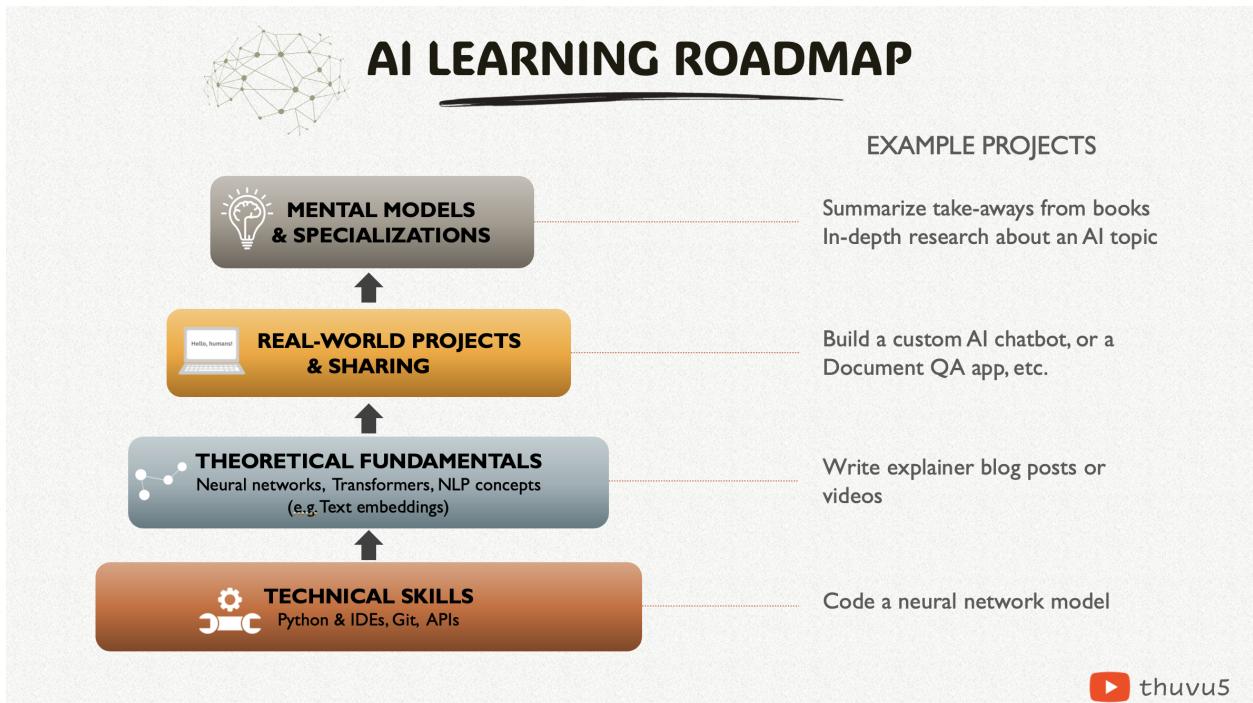




# Roadmap: How to Learn AI in 2024

Created by: Thu Vu

This roadmap is created as part of my [Youtube video](#) on this topic.



## Technical aspects

### 👉 What to learn?

- Python
- IDEs (Jupyter Notebook/ JupyterLab, VSCode, Pycharm, etc.)
- Git version control
- APIs
- Deploying AI applications

### 👉 Resources

- [Python for Everybody Specialization \(Coursera\)](#)
- [Python Tips \(Free online\) - for references](#)
-  [Git book](#)
-  [What is an API](#)
- [Deeplearning.ai short courses](#)

## Theoretical fundamentals

### 👉 What to learn?

Main AI concepts for a technical learner:

- Basics of neural networks
- Neural network architectures, incl. transformers
- How to “train” a language model
- Important NLP concepts (e.g. tokenization, text embeddings)

### 👉 Resources

-  [3Blue1Brown Neural Network playlist](#)
-  [Fast AI resources](#)
-  [CodeEmporium Transformers playlist](#)

-  [Deep Learning Specialization](#) (Coursera/ Deeplearning.ai)
-  [Deep learning book](#) (Ian Goodfellow and Yoshua Bengio and Aaron Courville)
-  [Natural Language Processing Specialization](#) (Coursera/ Deeplearning.ai)
-  [Let's Build GPT from scratch](#) (Andrej Karpathy)



## Real-world projects & Sharing

Projects need not be big or complex. It can be as small as writing a blog post to explain about something in AI.

If you want to build a real-world AI application, find a problem you are interested in solving with AI, and build a project around it.



### Example projects:



[Building a Chatbot with ChatGPT API and Reddit Data](#)



[I Created a Custom GPT for Data Science Nerds](#)



## Mental models & Specialized AI areas

Reading books about AI is a great way to go over the noise on social media and get a more well-rounded background of AI.



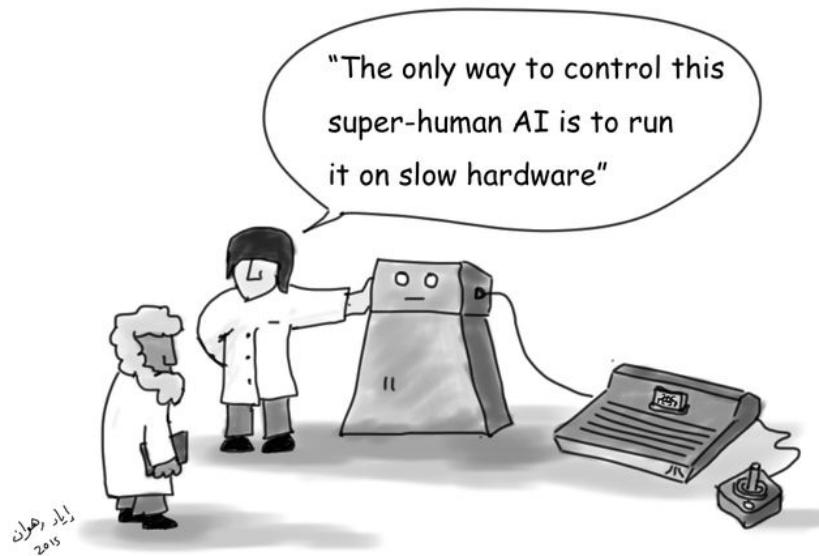
## My recommended AI book list:

1. [Life 3.0 \(Max Tegmark\)](#)
2. [Superintelligence \(Nick Bostrom\)](#)
3. [The Coming Wave \(Mustafa Suleyman, Michael Bhaskar\)](#)
4. [Human Compatible \(Stuart Russell\)](#)
5. [The Alignment Problem \(Brian Christian\)](#)
6. [Artificial Intelligence: A Modern Approach, Global Edition \(Peter Norvig, Stuart Russell\)](#)
7. [I, Human: AI, Automation, and the Quest to Reclaim What Makes Us Unique \(Tomas Chamorro-Premuzi\)](#)

## Specialized AI topics:

Choose one or a few AI areas you are interested in to dive deeper.

- **Advanced prompt engineering methods** to improve quality of the LLM responses, like self-consistency, chain of thoughts prompting, or automatic prompting.
- **AutoGen (Microsoft)**: allows you to develop LLM applications using multiple agents that can converse with each other to solve tasks.
- **Advanced document QA** with multi modal documents that can work well with complex tables, images and other data structures.
- **AI security and hacking**: The other day I watched a [video](#) of a researcher who uncovers some serious security issues with machine learning model. This is a very overlooked area until now, so if you know computer security very well, please do humanity a favor and look into this!



*Super intelligent machines containment strategies: stunting.*

Source: [Cartoon by Iyad Rahwan](#).

- We also have **AI safety**: Research area focusing on aligning AI's goals with human goals. Understanding large AI models and knowing how to make them safe are increasingly a priority next to improving AI capabilities.
- **AI Regulations:**
  - [EU AI Act \(Europe\)](#)

- [Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence \(EO\) \(US\)](#)

## **Useful AI newsletters:**

1. [The Batch](#) (Deeplearning.ai)
2. [The Algorithm](#) (MIT Technology Review)
3. [Paper with Code Newsletter](#)
4. [AI Ethics Brief \(Montreal AI Ethics Institute\)](#)

## **Specialized AI courses:**

1. [AI Alignment Course](#)—Developed with **Richard Ngo (OpenAI)**
  2. [AI Governance Course](#)
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Happy learning! 😊

Thu xx