

# Python Lab Survival Guide

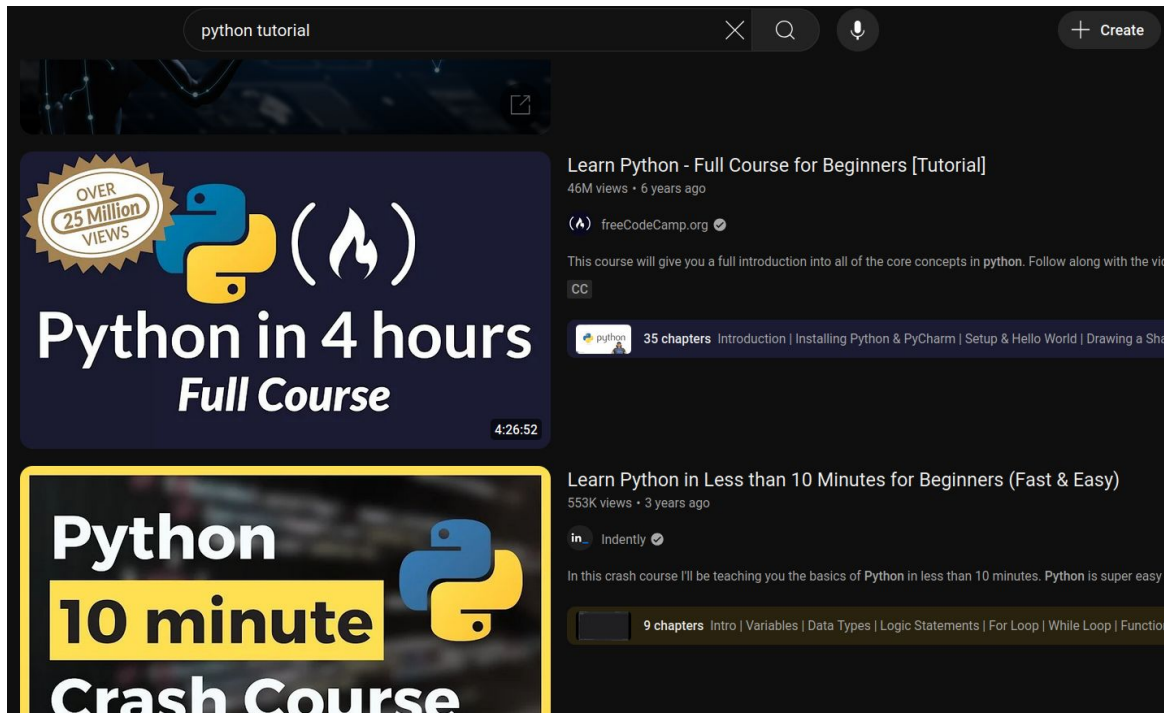
生存指南

Elton Hong

you should learn python if you haven't do it yet  
we only have a few months so we dont have enough time  
to teach you python

There is a lot of python tutorial on youtube

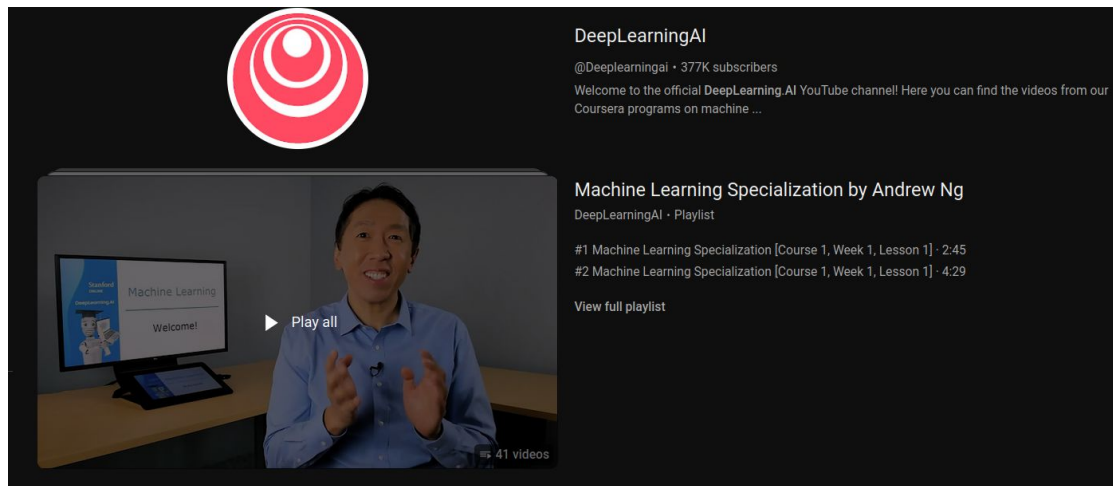
建議趁現在有空先自學  
python, 這樣之後期中考  
週才不會太趕



## Some useful resources for learning deep learning

- youtube
- coursera

I think Andrew Ng (吳恩達) deep learning tutorial is very nice for beginner



维基百科

<https://zh.wikipedia.org> > 吳恩達 · [Translate this page](#) :

## 吳恩達- 维基百科，自由的百科全书

吳恩達（英語：Andrew Yan-Tak Ng，1976年4月18日—）是史丹佛大學計算機科學系和電機工程系的客座教授，曾任史丹佛人工智慧實驗室（ ...



in every two weeks there will be a challenge  
I recommend to first study these thing by yourself  
because there is a lot of tutorial on internet

如果有時間的話可以先預習  
網路上很多資源  
這樣之後 做project 比較不會  
太趕

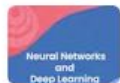
Week	Date	
1	2025-02-19(三)	Course Introduction, Splines, Smoothers, and GAMs
2	2025-02-26(三)	Splines, Smoothers, and GAMs, Unsupervised Learning: Cluster Analysis
3	2025-03-05(三)	Unsupervised Learning: Cluster Analysis, Bayesian Statistics
4	2025-03-12(三)	Bayesian Statistics
5	2025-03-19(三)	Bayesian Statistics and Hierarchical Models
6	2025-03-26(三)	CNNs Basics, Pooling, and CNNs Structure
7	2025-04-02(三)	Intercollegiate activities (holiday)
8	2025-04-09(三)	Backpropagation, Receptive Fields and Feature Map Visualization
9	2025-04-16(三)	Saliency Maps, State-of-the-Art Models (SOTA) and Transfer Learning
10	2025-04-23(三)	RNNs, GRUs, and LSTMs
11	2025-04-30(三)	Language Modeling (NLP) and Word Embeddings
12	2025-05-07(三)	Transformers and Autoencoders
13	2025-05-14(三)	Transformers and Variational Autoencoders (VAE)
14	2025-05-21(三)	Generative Adversarial Networks (GANs)
15	2025-05-28(三)	GANs and Deep Reinforcement Learning
16	2025-06-04(三)	Final Presentation

<https://timetable.nycu.edu.tw/?r=main/crsoutline&Acy=113&Sem=2&CrsNo=515155&lang=en-us>

## Syllabus

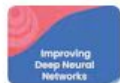
<https://www.coursera.org/specializations/deep-learning>

for example you can find Andrew Ng CNN tutorial on coursera



### Neural Networks and Deep Learning

Course 1 • 24 hours



### Improving Deep Neural Networks: Hyperparameter Tuning, Regularization...

Course 2 • 23 hours



### Structuring Machine Learning Projects

Course 3 • 6 hours



### Convolutional Neural Networks

Course 4 • 35 hours



### Sequence Models

Course 5 • 37 hours



## Instructors



**Top Instructor**

Andrew Ng

DeepLearning.AI

46 Courses • 8,146,318 learners



**Top Instructor**

Younes Bensouda Mourri

DeepLearning.AI

23 Courses • 1,581,685 learners

[View all 3 instructors](#)

## Offered by



DeepLearning.AI

[Learn more](#)

github is very useful

The image shows a YouTube video player interface. At the top, there is a search bar with the text "what is github" and icons for close, search, and voice search. Below the search bar is a banner with five circular profile pictures and a background image of a building. The video title is "Git vs. GitHub: What's the difference?" with 421K views and 4 years ago. The channel is "IBM Technology". The video description is "What is Git and what is it used for? What is the difference between Git and GitHub?". The video player shows a man in a black shirt standing in front of a chalkboard. The chalkboard has handwritten text: "GITHUB/ GITLAB HOSTED GIT", "APSLHORS", "DEWIPS", "MERGE CONFLICT", "PULL REQUEST (PR)", "PUSH", "CLONE", "STG", "WORKING COPY", and "ANTHONY BRADLEY". The video player has a blue bar at the bottom with the text "4 chapters Intro | What is Git | Benefits | Example". The IBM Cloud logo is in the bottom left corner of the video player.

what is github

Git vs. GitHub

IBM Cloud

Git vs. GitHub: What's the difference?

421K views • 4 years ago

IBM Technology

What is Git and what is it used for? What is the difference between Git and GitHub?

4 chapters Intro | What is Git | Benefits | Example

github desktop is useful

<https://desktop.github.com/download/>

for example, go to github, search for cnn tutorial

Q cnn tutorial pytorch

 **MorvanZhou/PyTorch-Tutorial**

☆ Star

Build your neural network easy and fast, 莫烦Python中文教学

python

machine-learning

tutorial

reinforcement-learning

neural-network

🟠 Jupyter Notebook · ☆ 8.2k · Updated on Mar 23, 2023

 **bentrevett/pytorch-sentiment-analysis**

☆ Star

**Tutorials** on getting started with **PyTorch** and TorchText for sentiment analysis.

nlp

natural-language-processing

tutorial

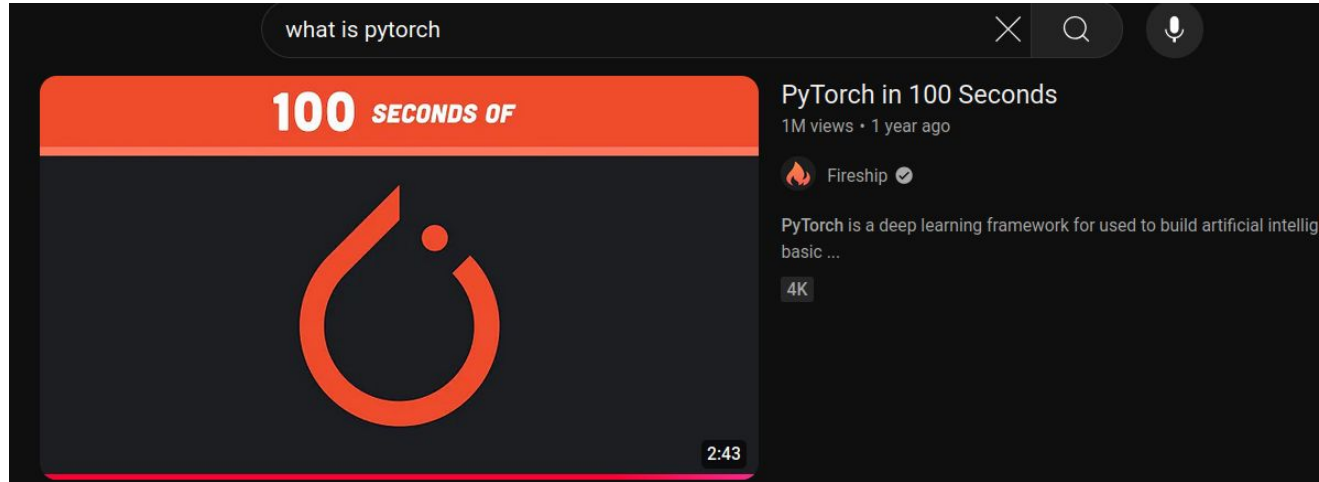
sentiment-analysis

word-embeddings

🟠 Jupyter Notebook · ☆ 4.5k · Updated on Mar 28, 2024

deep learning framework

Learn numpy and pytorch



dont use tensorflow



You can start building your final project NOW.  
you dont want to prepare final exam and final project at  
the same time.

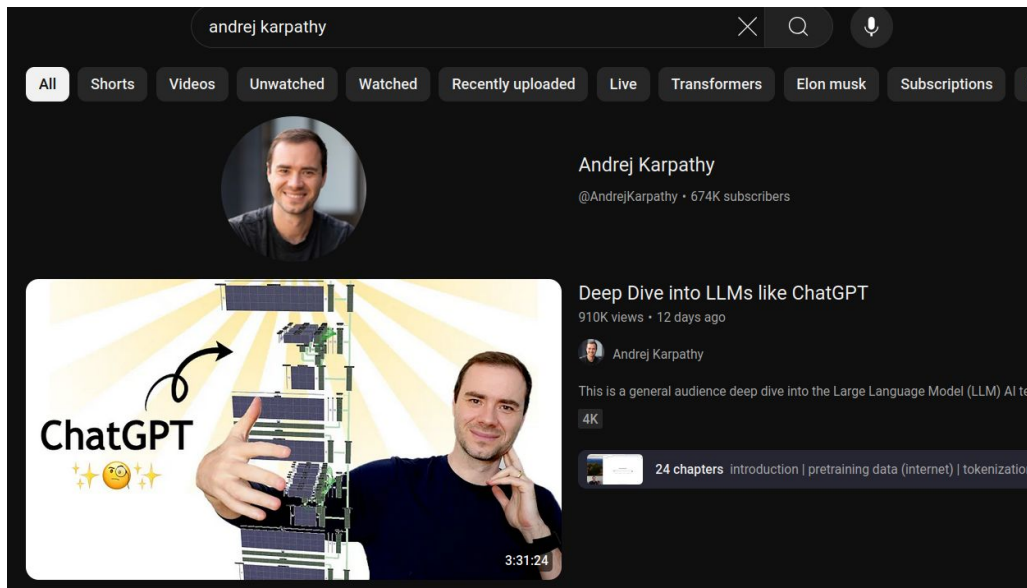
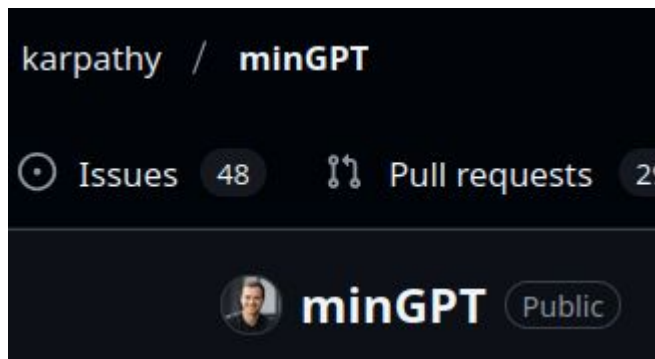
可以從現在就開始  
準備final project 了

free final project idea

- text to image generation
- chat bot
- Alpha go

- 文字圖線生成
- 聊天機器人
- 下圍棋

some cool project from github



go game 下圍棋

Google

mctx go github

All Videos Images News Forums



GitHub

<https://github.com/google-deepmind/mctx>

## google-deepmind/mctx: Monte Carlo tree search in JAX

**Mctx** is a library with a JAX-native implementation of Monte Carlo tree search (MCTS) algorithms such as AlphaZero, MuZero, and Gumbel MuZero.

google-deepmind / mctx



Issues

1



Pull requests



**mctx**

Public

rlglab /

**minizero**



Issues

2



Pull requests



**minizero**

Public

NTT123 / a0-jax



Issues

3



Pull requests



**a0-jax**

Public

You can find the slides

on github



Etin Horng github



GitHub

[https://github.com > jaco267](https://github.com/jaco267) · 翻譯這個網頁 ⋮

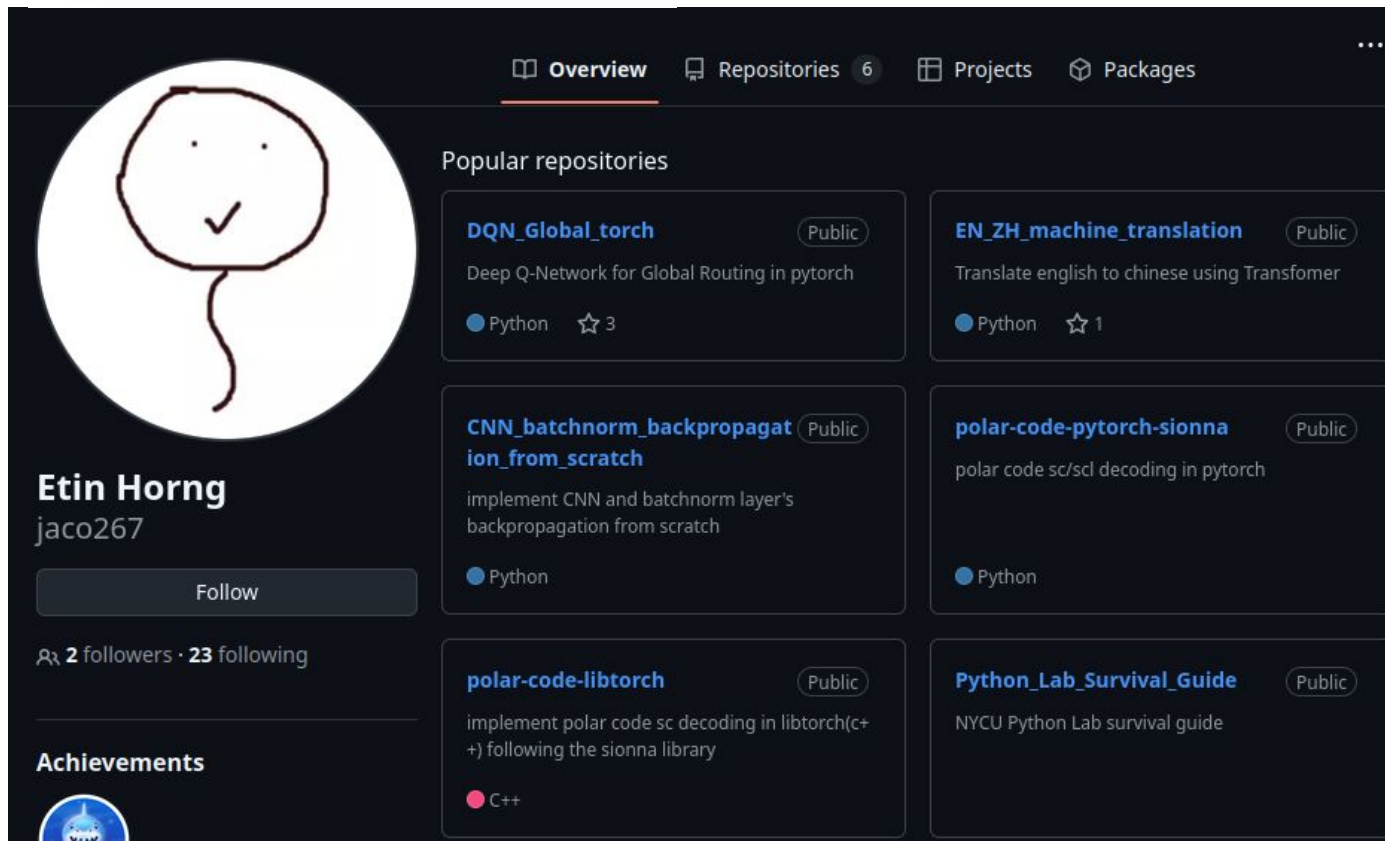
[Etin Horng\\_jaco267](#)

jaco267 has 5 repositories available. Follow their code on **GitHub**.



Etin Horng github

you can find the slides in my github repo



The screenshot shows the GitHub profile of Etin Horng (jaco267). The profile includes a circular avatar with a simple line drawing of a face and a checkmark. The navigation bar at the top shows 'Overview' as the active tab, with 'Repositories' (6), 'Projects', and 'Packages' also visible. The 'Popular repositories' section lists six repositories:

- DQN\_Global\_torch** (Public): Deep Q-Network for Global Routing in pytorch. Python, 3 stars.
- EN\_ZH\_machine\_translation** (Public): Translate english to chinese using Transformer. Python, 1 star.
- CNN\_batchnorm\_backpropagation\_from\_scratch** (Public): implement CNN and batchnorm layer's backpropagation from scratch. Python.
- polar-code-pytorch-sionna** (Public): polar code sc/scl decoding in pytorch. Python.
- polar-code-libtorch** (Public): implement polar code sc decoding in libtorch(c++) following the sionna library. C++.
- Python\_Lab\_Survival\_Guide** (Public): NYCU Python Lab survival guide.

On the left side of the profile, there is a 'Follow' button and a section for 'Achievements' which includes a '2022 Year' badge. The user has 2 followers and is following 23 people.

python  
lab  
survival guide

here

