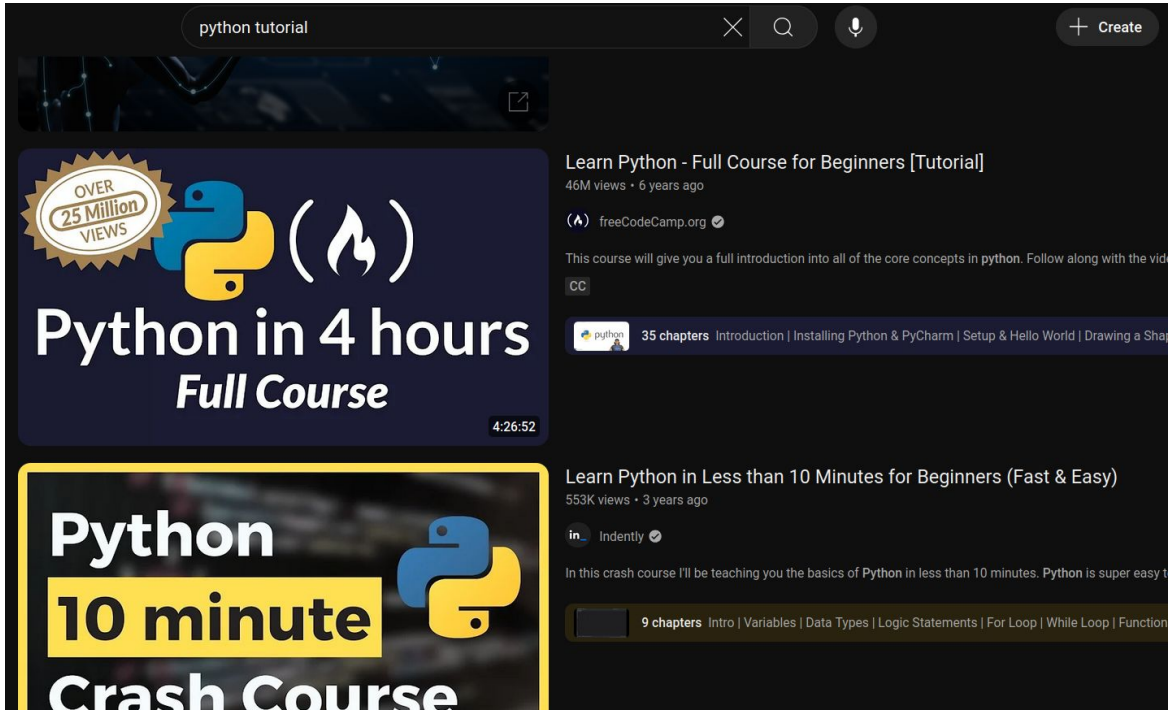
Python Lab Survival Guide

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

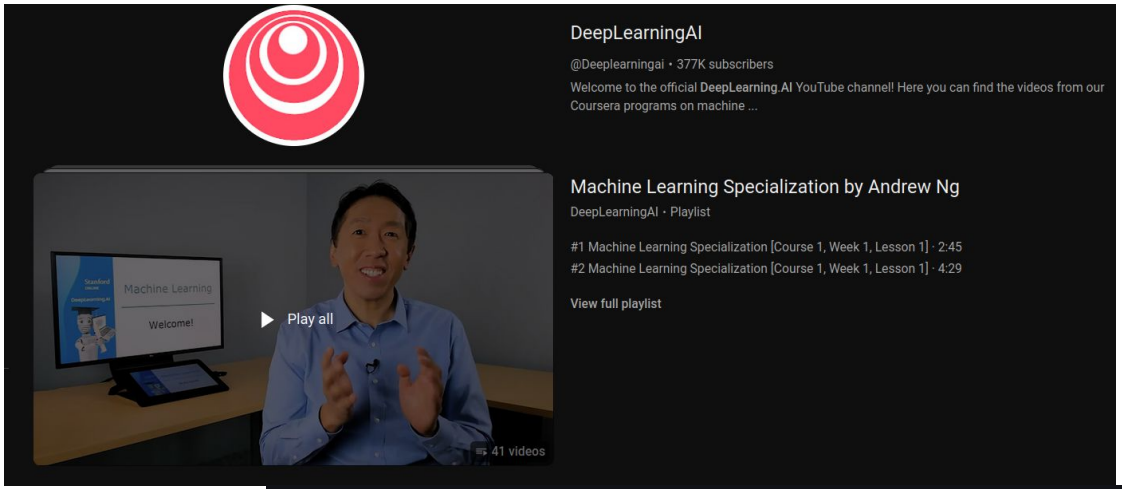


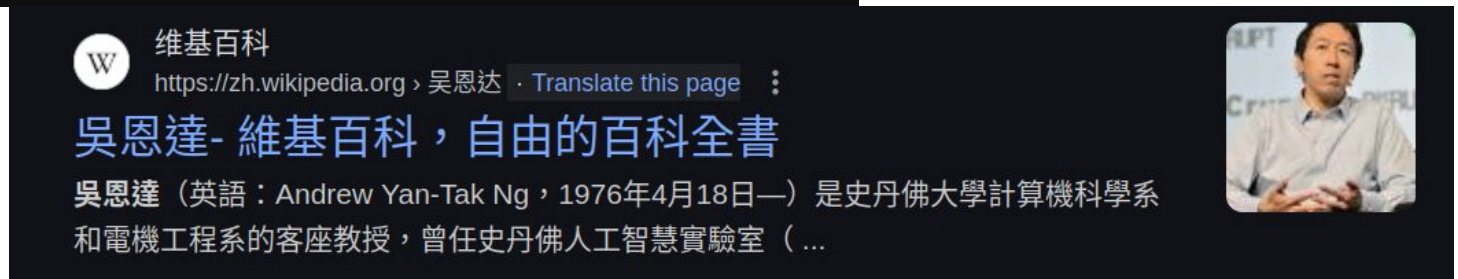
建議趁現在有空先自學python，這樣之後期中考週才不會太趕

Some useful resources for learning deep learning

- youtube
- coursera

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





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

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DeepLearning.AI

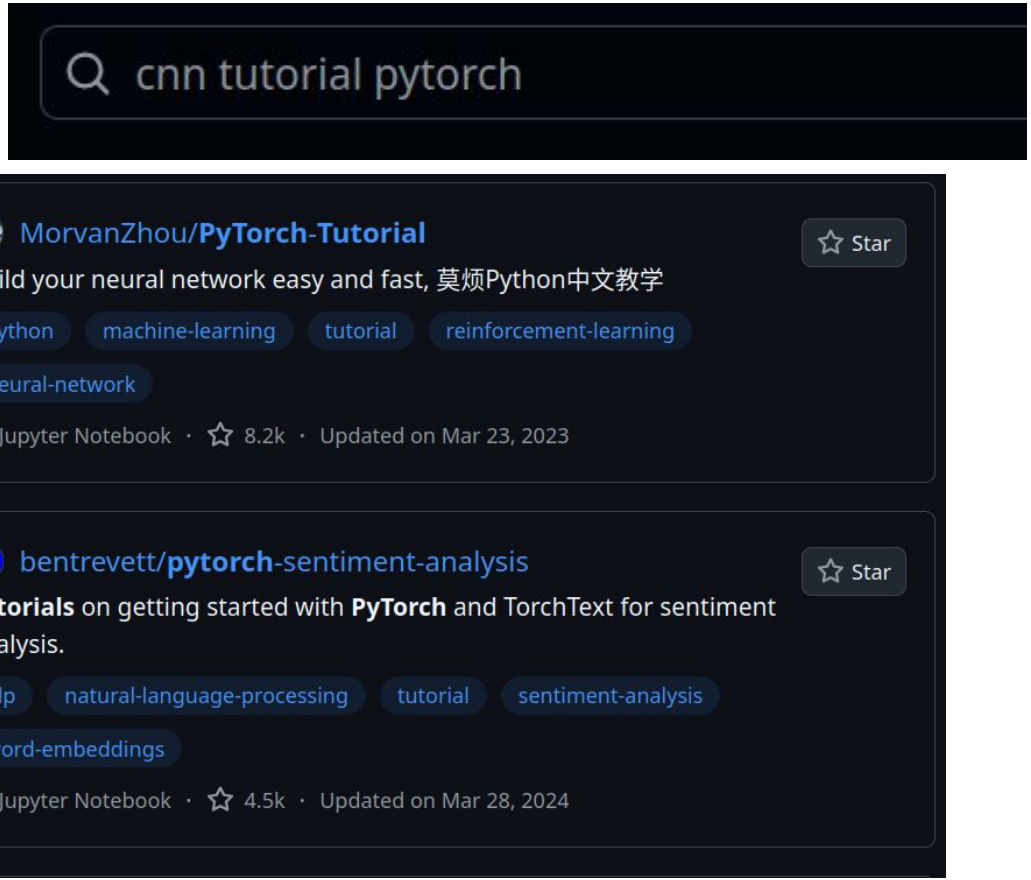
Learn more

github is very useful

github desktop is useful

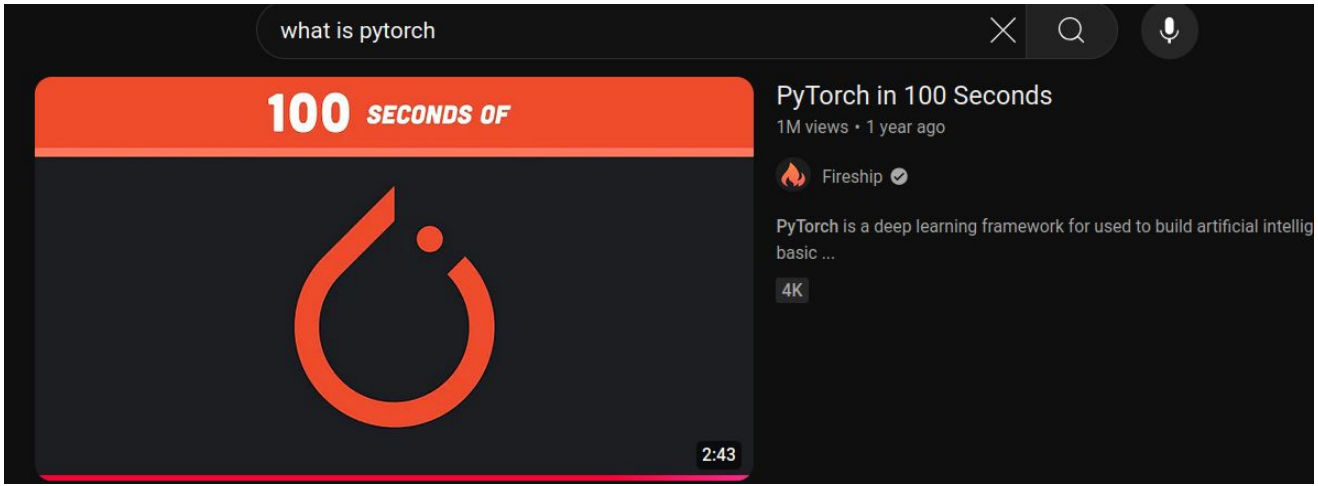
https://desktop.github.com/download/

for example, go to github, search for cnn tutorial



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.

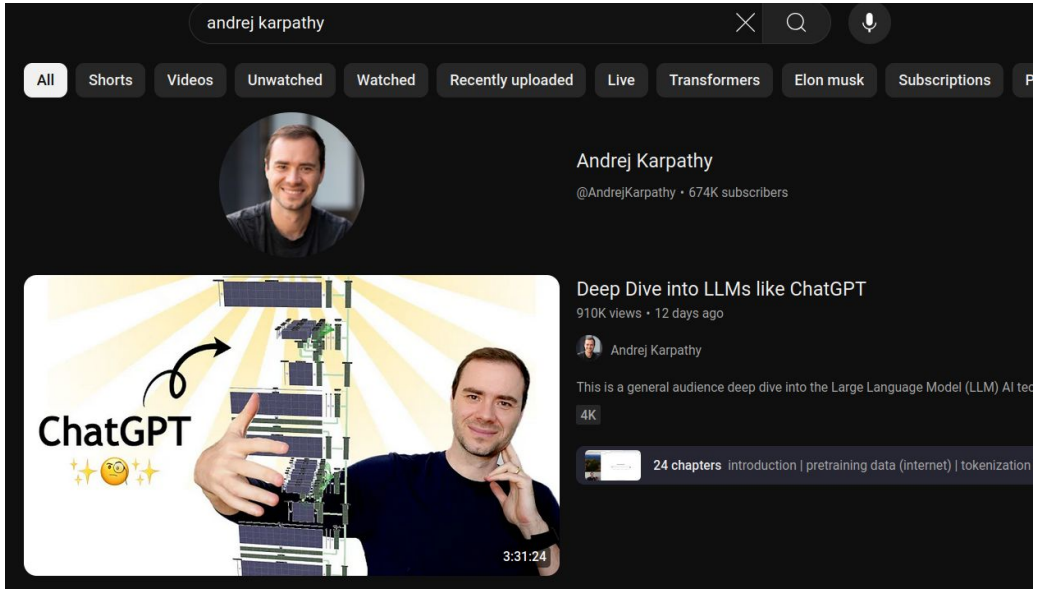
可以從現在就開始準備final project 了

free final project idea

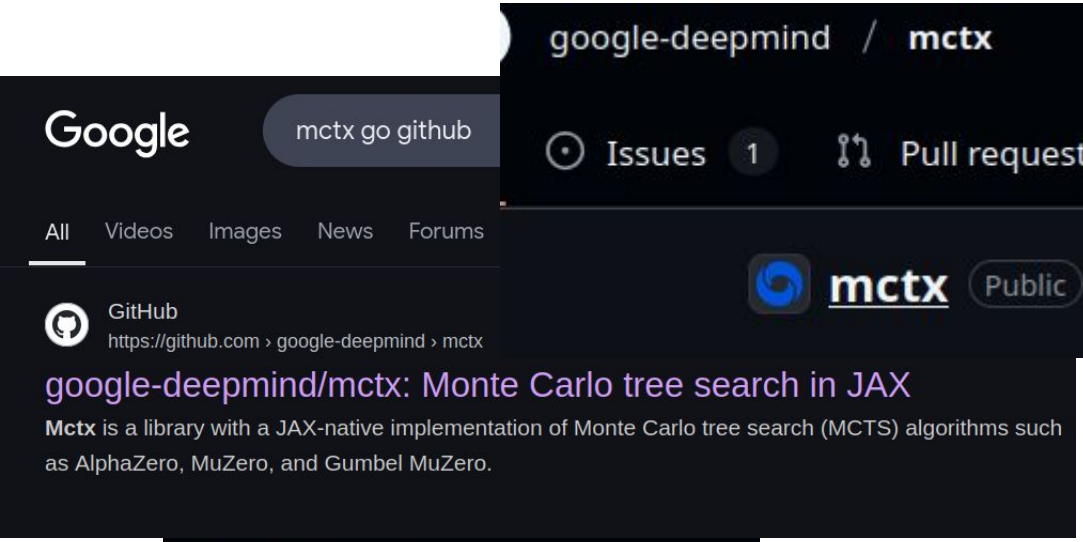
- text to image generation
- chat bot
- Alpha go

- 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
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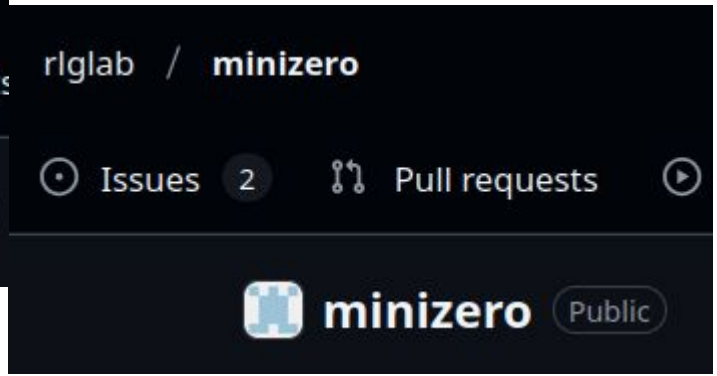
Forums
GitHub
https://github.com › google-deepmind › mctx
google-deepmind/mctx: Monte Carlo tree search in JAX
Mctx is a library with a JAX-native implementation of Monte Carlo tree search (MCTS) algorithms such as AlphaZero, MuZero, and Gumbel MuZero.

google-deepmind / mctx
Issues 1
Pull requests
mctx
Public


rlglab / minizero
Issues 2
Pull requests
minizero
Public

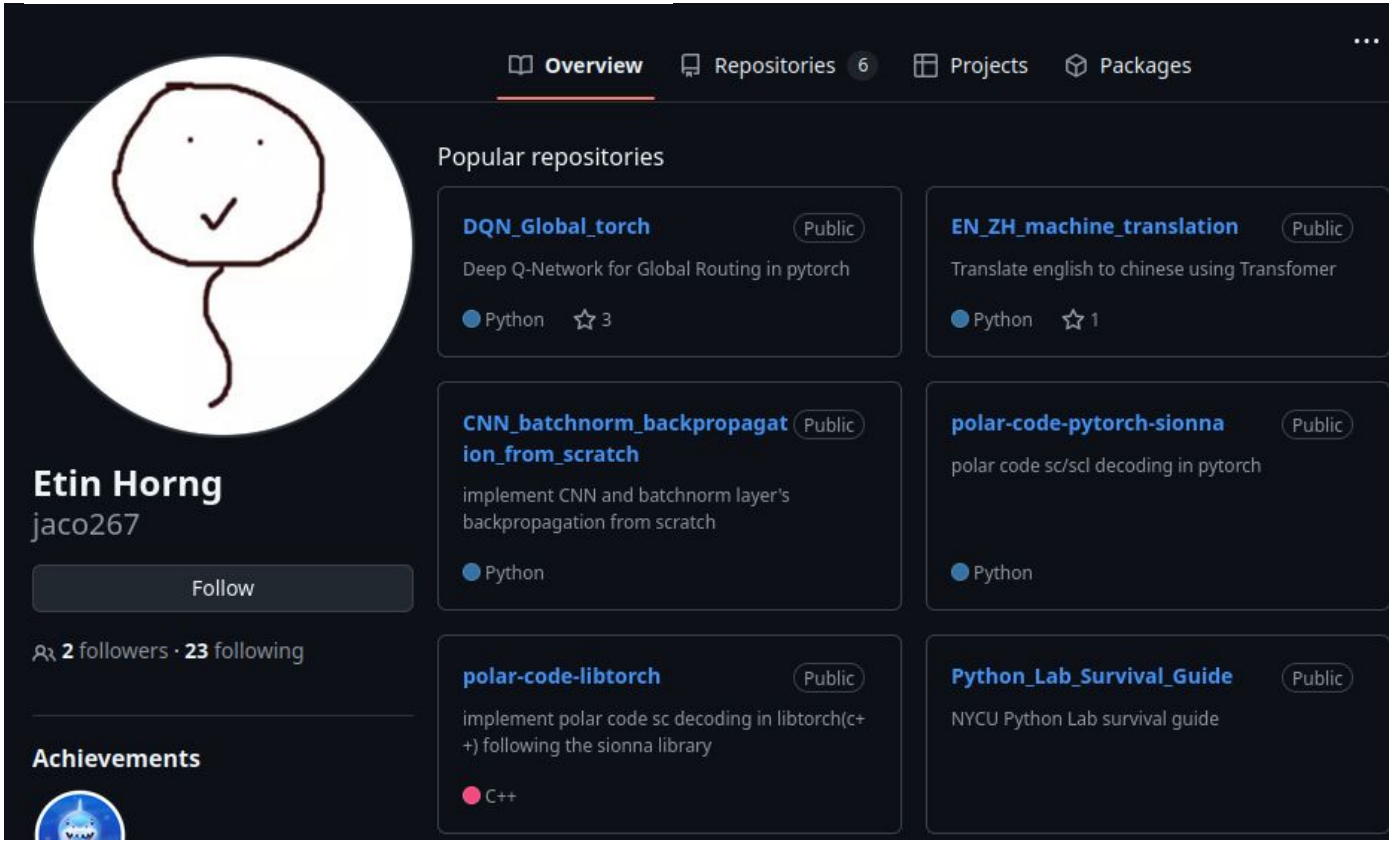

NTT123 / a0-jax
Issues 3
Pull requests
a0-jax
Public

You can find the slides

on github

Etin Horng github

you can find the slides in my github repo



python
lab
survival guide

here