

AIST4010 Spring2024 Tutorial 1

Setting up Deep Learning Environment

Licheng ZONG

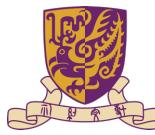
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Thursday, Jan 11, 2024

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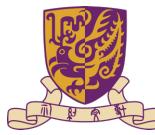
Introduction

Tutorial Materials

All the tutorial slides (including this one) and codes **except Kaggle solution introduction** can be found in this GitHub Repo:

<https://github.com/lczong/AIST4010-Tutorial-Spring2024>

The slides and solutions of the Kaggle tutorials will be released on BlackBoard.



Introduction

Deep Learning Environment

Local environment

Device:

- CPU Slow
- GPU Powerful

Operation systems:

- Windows & Mac
- Linux

Cloud environment

Recommended

- Colab
- Kaggle

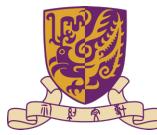
Server environment

Recommended

- Slurm

not recommended
the main deep learning system for researchers

Cloud Deep Learning Environment



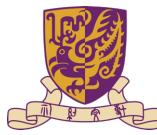
Colab

Colab, or “Colaboratory”, allows you to write and execute Python in your browser, with:

- Almost zero configuration required
- Free access to GPUs
- Easy to share

The GPUs available in Colab are Nvidia Tesla T4 for free users now.

Cloud Deep Learning Environment



Kaggle

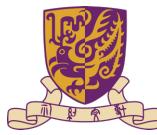
Kaggle offers a no-setup, customizable, Jupyter Notebooks environment.

- Almost zero configuration required
- Free access to GPUs
- A huge repository of community published data & code.

Regarding the programming environment, it's similar to Colab.

It's a community where you can learn and participate competitions.

The GPUs available in Colab are often Nvidia P100 for free users now. (33 hours a week)



Local and Server Environment

Local Environment

Linux + NVIDIA GPU + CUDA + PyTorch or Tensorflow

[Tutorial-English](#)

[Tutorial-Chinese](#)

Server Environment

We will provide 1-2 gpus from cse department for you to do your assignments.

We are working on it and will give the tutorials later

Deep Learning Libraries



PyTorch vs. TensorFlow

Both are acceptable for Kaggle assignments and projects.
You can choose what you like.

PyTorch is easier to use and more popular recently.

Personally I recommend **PyTorch** and tutorials be mainly based on PyTorch.

Besides, if you use PyTorch, TAs can better help you solve problems you may meet.

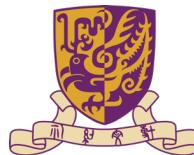


What you need to do in AO

Assignment 0

- Get familiar with **Colab** (All these tutorial materials will be released)
- Go to the [Assignment 0](#) to learn about **Kaggle**
- Register on Kaggle and set your team name for submission.
 - The team name should be different with your real name
 - Fill in this form: <https://forms.gle/Up4RKxh2XoA1MUXG7>
- Submit a version of classification code and make sure your name shows up on the leaderboard. (Beat the baseline!)
- Please don't use Random Forest. You may try Logistic Regression ...

It's a non-grading assignment, so don't worry whether your score is very high. Just be above the baseline is fine.



Thanks for listening!

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