

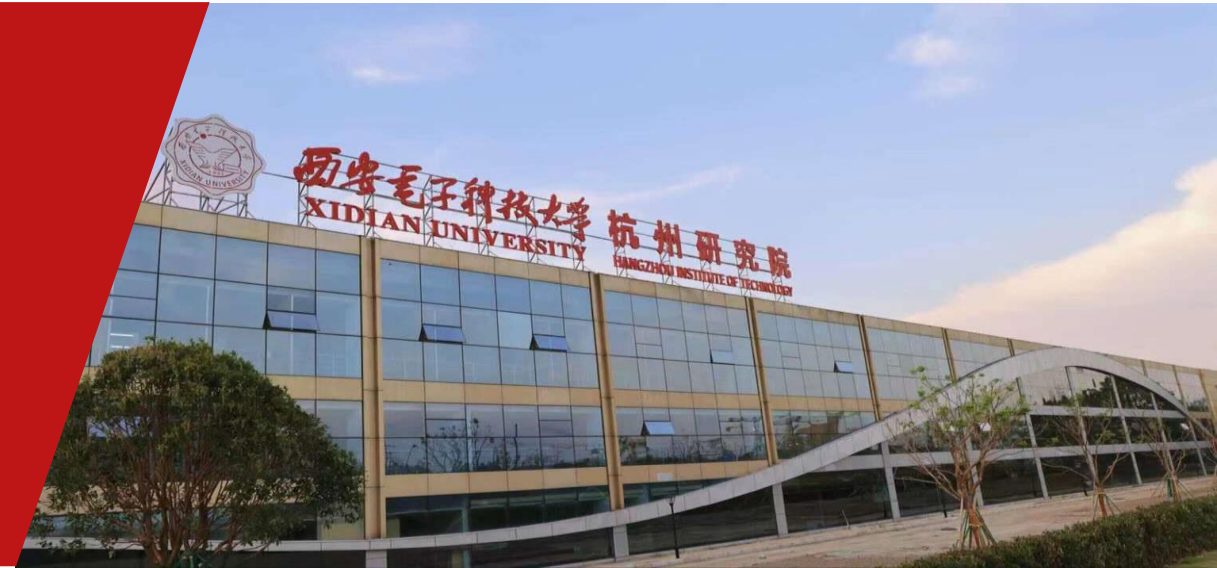


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杭州研究院
Hangzhou Institute of Technology

高性能计算实验作业

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清空当前环境的所有软件模块，然后加载特定版本的编译器、MPI并行计算库和AMD GPU开发工具包

```
module purge
```

```
module load compiler/devtoolset/7.3.1 mpi/hpcx/2.11.0/gcc-  
7.3.1 compiler/dtk/23.10
```



安装miniconda3

```
wget https://repo.anaconda.com/miniconda/Miniconda3-  
latest-Linux-x86_64.sh  
bash Miniconda3-latest-Linux-x86_64.sh  
source /work/home/yoke_caozi/miniconda3/bin/activate
```

```
Miniconda3 will now be installed into this location:  
/work/home/yoke_caozi/miniconda3
```

- Press ENTER to confirm the location
- Press CTRL-C to abort the installation
- Or specify a different location below

```
sqlite      pkgs/main/linux-64::sqlite-3.45.3-h5ee18b_0  
tk           pkgs/main/linux-64::tk-8.6.14-h39e8969_0  
tqdm        pkgs/main/linux-64::tqdm-4.67.1-py312he106c6f_0  
truststore  pkgs/main/linux-64::truststore-0.10.0-py312h06a4308_0  
typing-extensions pkgs/main/linux-64::typing_extensions-4.12.2-py312h06a4308_0  
typing_extensions pkgs/main/linux-64::typing_extensions-4.12.2-py312h06a4308_0  
tzdata      pkgs/main/noarch::tzdata-2025a-h04d1e81_0  
urllib3     pkgs/main/linux-64::urllib3-2.3.0-py312h06a4308_0  
wheel       pkgs/main/linux-64::wheel-0.45.1-py312h06a4308_0  
xz          pkgs/main/linux-64::xz-5.4.6-h5ee18b_1  
yaml-cpp    pkgs/main/linux-64::yaml-cpp-0.8.0-h6a678d5_1  
zlib        pkgs/main/linux-64::zlib-1.2.13-h5ee18b_1  
zstandard  pkgs/main/linux-64::zstandard-0.23.0-py312h2c38b39_1  
zstd        pkgs/main/linux-64::zstd-1.5.6-hc292b87_0
```

Downloading and Extracting Packages:

Preparing transaction: done

Executing transaction: - ^[/



换源

touch .condarc
vim .condarc

```
[yoke_caozi@login05 ~]$ cat .condarc
channels:
  - defaults
show_channel_urls: true
channel_alias: https://mirrors.tuna.tsinghua.edu.cn/anaconda
default_channels:
  - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/main
  - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/free
  - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/r
  - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/pro
  - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/msys2
custom_channels:
  conda-forge: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
  msys2: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
  bioconda: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
  menpo: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
  pytorch: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
  simpleitk: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
```



清理缓存，查看配置

conda clean -i
conda config --show

```
(base) [yoke_caozi@login05 ~]$ conda clean -i
Will remove 1 index cache(s).
Proceed ([y]/n)? y

(base) [yoke_caozi@login05 ~]$ conda config --show
add_anaconda_token: True
add_pip_as_python_dependency: True
aggressive_update_packages:
  - ca-certificates
  - certifi
  - openssl
allow_conda_downgrades: False
allow_cycles: True
allow_non_channel_urls: False
allow_softlinks: False
allowlist_channels: []
always_copy: False
always_softlink: False
always_yes: None
```



创建一个新的 Python 虚拟环境并安装特定版本的 PyTorch (针对 AMD GPU 优化)

```
conda create -n vit python=3.10
conda activate vit
cd /public/software/apps/DeepLearning/whl/dtk-
23.10/pytorch/torch1.13/py310
pip install *.whl
```

```
(vit) [yoke_caozi@login05 py310]$ pip install *.whl
Processing ./torch-1.13.1+git7d2dd01.abi0.dtk2310-cp310-cp310-manylinux2014_x86_64.whl
Processing ./torchaudio-0.13.1+29deb08.abi0.dtk2310.torch1.13.1-cp310-cp310-manylinux2014_x86_64.
Processing ./torchvision-0.14.1+gitf78f29f.abi0.dtk2310.torch1.13-cp310-cp310-manylinux2014_x86_6
Collecting typing_extensions (from torch==1.13.1+git7d2dd01.abi0.dtk2310)
  Downloading typing_extensions-4.13.2-py3-none-any.whl.metadata (3.0 kB)
Collecting numpy (from torchvision==0.14.1+gitf78f29f.abi0.dtk2310.torch1.13)
  Downloading numpy-2.2.5-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (62
Collecting requests (from torchvision==0.14.1+gitf78f29f.abi0.dtk2310.torch1.13)
  Downloading requests-2.32.3-py3-none-any.whl.metadata (4.6 kB)
Collecting pillow!=8.3.*,>=5.3.0 (from torchvision==0.14.1+gitf78f29f.abi0.dtk2310.torch1.13)
  Downloading pillow-11.2.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (
Collecting charset-normalizer<4,>=2 (from requests->torchvision==0.14.1+gitf78f29f.abi0.dtk2310.t
3)
```



创建一个新的 Python 虚拟环境并安装特定版本的 PyTorch (针对 AMD GPU 优化)

pip config set global.index-url
<https://pypi.tuna.tsinghua.edu.cn/simple>
pip install "numpy<2" pip install einops

```
(vit) [yoke_caozi@login05 py310]$ pip install "numpy<2"
Looking in indexes: https://pypi.tuna.tsinghua.edu.cn/simple
Collecting numpy<2
  Downloading https://pypi.tuna.tsinghua.edu.cn/packages/4b/d7/ecf66c1cd12dc28b4040b15ab4d17b773b87fa9
9ca16125de01adb36cd/numpy-1.26.4-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (18.2 MB)
    18.2/18.2 MB 13.0 MB/s eta 0:00:00
Installing collected packages: numpy
  Attempting uninstall: numpy
    Found existing installation: numpy 2.2.5
    Uninstalling numpy-2.2.5:
      Successfully uninstalled numpy-2.2.5
  Successfully installed numpy-1.26.4
(vit) [yoke_caozi@login05 py310]$ pip install einops
Looking in indexes: https://pypi.tuna.tsinghua.edu.cn/simple
Collecting einops
```



创建一个自动化脚本 (env.sh), 用于快速初始化高性能计算 (HPC) 或深度学习任务的运行环境

vim env.sh

env.sh:

module purge module load compiler/devtoolset/7.3.1

mpi:wq/hpcx/2.11.0/gcc-7.3.1 compiler/dtk/23.10

source /work/home/yoke_caozi/miniconda3/bin/activate

```
(vit) [yoke_caozi@login05 ~]$ cat env.sh
module purge
module load compiler/devtoolset/7.3.1 mpi/hpcx/2.11.0/gcc-7.3.1 compiler/dtk/23.10
source /public/work/yoke_caozi/miniconda3/bin/activate

(vit) [yoke_caozi@login05 ~]$ vim env.sh
(vit) [yoke_caozi@login05 ~]$ source env.sh
bash: /work/yoke_caozi/miniconda3/bin/activate: No such file or directory
(vit) [yoke_caozi@login05 ~]$ pwd
/work/home/yoke_caozi
(vit) [yoke_caozi@login05 ~]$ vim env.sh
(vit) [yoke_caozi@login05 ~]$ source env.sh
(base) [yoke_caozi@login05 ~]$ vim env.sh
(base) [yoke_caozi@login05 ~]$ source env.sh
(base) [yoke_caozi@login05 ~]$
```




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感谢你的观看