

《人工智能软件开发与实践》

(2023 学年 秋季 学期)

作 业 报 告

学 号： _____

姓 名： _____

班 级： _____

任课教师： _____

作业报告

实验名称： 人工智能计算环境配置

成绩：

实验类别： 验证/综合型实验

实验要求： 1 人 1 组 **时间：** 2023 年 8 月 28 日

一、 实验目的

搭建人工智能实际任务所需要的计算环境。熟练掌握 conda 的使用。

二、 实验内容

1. 安装 miniconda (mirrors.hit.edu.cn)

2. conda、anaconda、miniconda 和 pip 的区别是什么

conda 是一个通用的包管理器，Anaconda 指的是一个开源的 Python 发行版本，其包含了 conda、Python 等 180 多个科学包及其依赖项。Miniconda 是其较小的发行版本，只包括 Conda、Python，本质上是一个用来安装空的 conda 环境的安装器。Pip 是 Python 包的通用管理器。pip 的全称是 Pip Install Packages，它是一个 Python 官方认证的包管理工具。它只能管理 python 包，通常用于安装发布在 Python Package Index (PyPI) 上面的包。

3. conda 换源

```
conda config --add channels https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/free/  
conda config --add channels https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/main/  
conda config --set show_channel_urls yes
```

4. conda 常用命令 (实验结果)

```
conda create --name [新虚拟环境的名称] python== [版本名称]
```

```
conda create --name [新虚拟环境的名称] --clone [原虚拟环境的名称]
```

```
conda activate [虚拟环境的名称]
```

```
conda deactivate // 确保已经退出当前环境
```

```
conda env list or conda info -e// 查看当前存在的所有虚拟环境
```

```
conda remove --name [虚拟环境的名称] --all // 删除指定名称的虚拟环境
```

5. 建立两个环境 py38 和 py 39，分别在每个环境下，输出 python 的版本 (python

--version)

三、使用的算法名称（若无，可以不填）

四、程序源码（拷贝至此处，同时作为附件和报告再一份单独的程序）

4.

```
conda create --name new python=3.9
```

```
conda activate new
```

```
conda deactivate
```

```
conda create -n newnew --clone new
```

```
conda env list
```

```
conda remove --name new --all
```

5.

```
conda create --name py38 python=3.8
```

```
conda activate py38
```

```
python --version
```

```
conda deactivate
```

```
conda create -n py39 python=3.9
```

```
conda activate py39
```

```
python -V
```

```
conda deactivate
```

五、程序运行结果（将程序运行结果的截图，拷贝至此处）

4.

```
Anaconda Prompt (miniconda) x + v

(base) C:\Users\JXnot4u>conda create --name new python=3.9
Collecting package metadata (current_repodata.json): done
Solving environment: done

==> WARNING: A newer version of conda exists. <==
current version: 23.5.0
latest version: 23.7.3

Please update conda by running

    $ conda update -n base -c defaults conda

Or to minimize the number of packages updated during conda update use

    conda install conda=23.7.3

## Package Plan ##

environment location: C:\Users\JXnot4u\miniconda3\envs\new

added / updated specs:
- python=3.9

The following packages will be downloaded:

package | build | size
-----|-----|-----
openssl-3.0.10 | h2bbff1b_2 | 7.4 MB
pip-23.2.1 | py39haa95532_0 | 2.8 MB
python-3.9.17 | h1aa4202_0 | 19.4 MB
setuptools-68.0.0 | py39haa95532_0 | 925 KB
wheel-0.38.4 | py39haa95532_0 | 83 KB
-----|-----|-----
Total: | 30.6 MB

The following NEW packages will be INSTALLED:

ca-certificates pkgs/main/win-64::ca-certificates-2023.05.30-haa95532_0
openssl pkgs/main/win-64::openssl-3.0.10-h2bbff1b_2
pip pkgs/main/win-64::pip-23.2.1-py39haa95532_0
python pkgs/main/win-64::python-3.9.17-h1aa4202_0
setuptools pkgs/main/win-64::setuptools-68.0.0-py39haa95532_0
sqlite pkgs/main/win-64::sqlite-3.41.2-h2bbff1b_0
tzdata pkgs/main/noarch::tzdata-2023c-h04d1e81_0
vc pkgs/main/win-64::vc-14.2-h21ff451_1
vs2015_runtime pkgs/main/win-64::vs2015_runtime-14.27.29016-h5e58377_2
wheel pkgs/main/win-64::wheel-0.38.4-py39haa95532_0

Proceed ([y]/n)? y

Downloading and Extracting Packages

Preparing transaction: done
Verifying transaction: done
Executing transaction: done

#
# To activate this environment, use
#
#     $ conda activate new
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) C:\Users\JXnot4u>conda activate new
CommandNotFoundError: No command 'conda activate'.
Did you mean 'conda activate'?

(base) C:\Users\JXnot4u>conda activate new

(new) C:\Users\JXnot4u>conda deactivate

(base) C:\Users\JXnot4u>conda create -n newnew --clone new
```

```
Anaconda Prompt (miniconda) x + v
(new) C:\Users\JXnot4u>conda deactivate

(base) C:\Users\JXnot4u>conda create -n newnew --clone new
Source: C:\Users\JXnot4u\miniconda3\envs\new
Destination: C:\Users\JXnot4u\miniconda3\envs\newnew
Packages: 10
Files: 0

Downloading and Extracting Packages

Downloading and Extracting Packages

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate newnew
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) C:\Users\JXnot4u>conda env list
# conda environments:
#
base                * C:\Users\JXnot4u\miniconda3
new                  C:\Users\JXnot4u\miniconda3\envs\new
newnew              C:\Users\JXnot4u\miniconda3\envs\newnew

(base) C:\Users\JXnot4u>conda remove -n new --all
Remove all packages in environment C:\Users\JXnot4u\miniconda3\envs\new:

## Package Plan ##

  environment location: C:\Users\JXnot4u\miniconda3\envs\new

(base) C:\Users\JXnot4u>conda env list
# conda environments:
#
base                * C:\Users\JXnot4u\miniconda3
new                  C:\Users\JXnot4u\miniconda3\envs\new
newnew              C:\Users\JXnot4u\miniconda3\envs\newnew

(base) C:\Users\JXnot4u>conda remove -n new --all
Remove all packages in environment C:\Users\JXnot4u\miniconda3\envs\new:

## Package Plan ##

  environment location: C:\Users\JXnot4u\miniconda3\envs\new

The following packages will be REMOVED:

ca-certificates-2023.05.30-haa95532_0
openssl-3.0.10-h2bbff1b_2
pip-23.2.1-py39haa95532_0
python-3.9.17-h1aa4202_0
setuptools-68.0.0-py39haa95532_0
sqlite-3.41.2-h2bbff1b_0
tzdata-2023c-h04d1e81_0
vc-14.2-h21ff451_1
vs2015_runtime-14.27.29016-h5e58377_2
wheel-0.38.4-py39haa95532_0

Proceed ([y]/n)? y
Preparing transaction: done
Verifying transaction: done
Executing transaction: done

(base) C:\Users\JXnot4u>
```

5.

```
Anaconda Prompt (miniconda) x + v

(base) C:\Users\JXnot4u>conda create --name py38 python=3.8
Collecting package metadata (current_repodata.json): done
Solving environment: done

==> WARNING: A newer version of conda exists. <==
  current version: 23.5.0
  latest version: 23.7.3

Please update conda by running

  $ conda update -n base -c defaults conda

Or to minimize the number of packages updated during conda update use

  conda install conda=23.7.3

## Package Plan ##

  environment location: C:\Users\JXnot4u\miniconda3\envs\py38
  added / updated specs:
    - python=3.8

The following packages will be downloaded:

  package | build | size
  -----|-----|-----
  pip-23.2.1 | py38haa95532_0 | 2.8 MB
  python-3.8.17 | h1aa4202_0 | 20.5 MB
  setuptools-68.0.0 | py38haa95532_0 | 925 KB
  wheel-0.38.4 | py38haa95532_0 | 83 KB
  -----|-----|-----
  Total: | 24.2 MB

The following NEW packages will be INSTALLED:

  ca-certificates pkgs/main/win-64::ca-certificates-2023.05.30-haa95532_0

Anaconda Prompt (miniconda) x + v

ca-certificates pkgs/main/win-64::ca-certificates-2023.05.30-haa95532_0
libffi pkgs/main/win-64::libffi-3.4.4-hd77b12b_0
openssl pkgs/main/win-64::openssl-3.0.10-h2bbff1b_2
pip pkgs/main/win-64::pip-23.2.1-py38haa95532_0
python pkgs/main/win-64::python-3.8.17-h1aa4202_0
setuptools pkgs/main/win-64::setuptools-68.0.0-py38haa95532_0
sqlite pkgs/main/win-64::sqlite-3.41.2-h2bbff1b_0
vc pkgs/main/win-64::vc-14.2-h21ff451_1
vs2015_runtime pkgs/main/win-64::vs2015_runtime-14.27.29016-h5e58377_2
wheel pkgs/main/win-64::wheel-0.38.4-py38haa95532_0

Proceed ([y]/n)? y

Downloading and Extracting Packages

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#   $ conda activate py38
#
# To deactivate an active environment, use
#
#   $ conda deactivate

(base) C:\Users\JXnot4u>conda activate py38

(py38) C:\Users\JXnot4u>python --version
Python 3.8.17

(py38) C:\Users\JXnot4u>conda deactivate

(base) C:\Users\JXnot4u>conda create -n py39 python=3.9
Collecting package metadata (current_repodata.json): done
Solving environment: done
```

```
Anaconda Prompt (miniconda) x + v

==> WARNING: A newer version of conda exists. <==
current version: 23.5.0
latest version: 23.7.3

Please update conda by running

    $ conda update -n base -c defaults conda

Or to minimize the number of packages updated during conda update use

    conda install conda=23.7.3

## Package Plan ##

environment location: C:\Users\JXnot4u\miniconda3\envs\py39

added / updated specs:
- python=3.9

The following NEW packages will be INSTALLED:

ca-certificates pkgs/main/win-64::ca-certificates-2023.05.30-haa95532_0
openssl          pkgs/main/win-64::openssl-3.0.10-h2bbff1b_2
pip              pkgs/main/win-64::pip-23.2.1-py39haa95532_0
python           pkgs/main/win-64::python-3.9.17-h1aa4202_0
setuptools       pkgs/main/win-64::setuptools-68.0.0-py39haa95532_0
sqlite           pkgs/main/win-64::sqlite-3.41.2-h2bbff1b_0
tzdata          pkgs/main/noarch::tzdata-2023c-h04d1e81_0
vc               pkgs/main/win-64::vc-14.2-h21ff451_1
vs2015_runtime  pkgs/main/win-64::vs2015_runtime-14.27.29016-h5e58377_2
wheel            pkgs/main/win-64::wheel-0.38.4-py39haa95532_0

Proceed ([y]/n)? y

Downloading and Extracting Packages

Anaconda Prompt (miniconda) x + v

openssl          pkgs/main/win-64::openssl-3.0.10-h2bbff1b_2
pip              pkgs/main/win-64::pip-23.2.1-py39haa95532_0
python           pkgs/main/win-64::python-3.9.17-h1aa4202_0
setuptools       pkgs/main/win-64::setuptools-68.0.0-py39haa95532_0
sqlite           pkgs/main/win-64::sqlite-3.41.2-h2bbff1b_0
tzdata          pkgs/main/noarch::tzdata-2023c-h04d1e81_0
vc               pkgs/main/win-64::vc-14.2-h21ff451_1
vs2015_runtime  pkgs/main/win-64::vs2015_runtime-14.27.29016-h5e58377_2
wheel            pkgs/main/win-64::wheel-0.38.4-py39haa95532_0

Proceed ([y]/n)? y

Downloading and Extracting Packages

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate py39
#
# To deactivate an active environment, use
#
#     $ conda deactivate
#

(base) C:\Users\JXnot4u>conda activte py39
CommandNotFoundError: No command 'conda activte'.
Did you mean 'conda activate'?

(base) C:\Users\JXnot4u>conda activate py39

(py39) C:\Users\JXnot4u>python -V
Python 3.9.17

(py39) C:\Users\JXnot4u>conda deactivate
```

六、心得体会和遇到的困难

初次接触 conda 环境和 python 语言编程。对很多错误的原因不能很好把握，造成了一定的难度。