HuStar AI Course: Computer Vision

Introduction

Janghun Jo Geonung Kim

Computer Graphics Lab.

POSTECH

Contents

- Orientation
- Basic Libraries
  - Anaconda
  - Numpy

TA members

- Janghun Jo
  - Ph.D student, Computer Graphics Lab, POSTECH
  - jhjo432@postech.ac.kr

- Geonung Kim
  - Master student, Computer Graphics Lab, POSTECH
  - k2woong92@postech.ac.kr

Policies

- 구성: 실습: 10시간, 프로젝트: 10시간
  - 실습 시간은 조교 지도에 따라서 코드 구현 및 동작을 진행하고, 프로젝트 시간에는 실습 시간과 동일하거나 평가에 관련된 퀴즈 문제를 해결

- 평가
  - 코드 빈칸 채우기 퀴즈 제출
  - Cifar10 분류 모델 정확도 평가 (Optional)

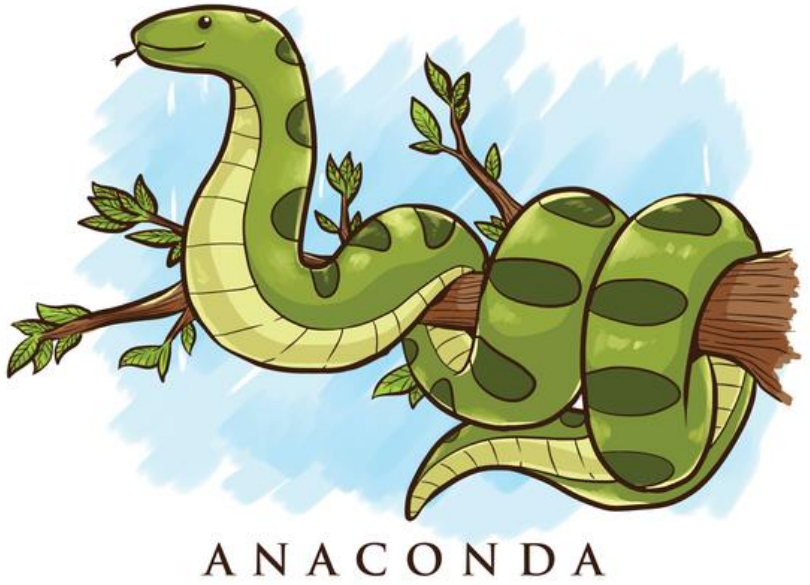
Basic Libraries

Anaconda

Anaconda

- Anaconda is an open-source package management system and environment management system
- Conda easily creates, saves, loads and switches between environments on your computer
- Conda as a package manager helps you find and install packages

ANACONDA®



Anaconda

- Installation
  - Download anaconda installer in https://www.anaconda.com/distribution/
  - *bash Anaconda-latest-Linux-x86_64.sh*
- Make a new environment
  - *conda create -n {desired name} python={desired version}*
  - *~/anaconda3/envs* (이곳에 개별 버전들이 존재한다.)
- Using an environment
  - *conda activate {desired env name}*
  - *conda deactivate*
- Remove an environment
  - *conda remove -n {desired env name} --all*

Anaconda

- Saving an environment
  - *conda activate {env name}*
  - *conda env export > {desired name}.yml*
  - *vim {desired name}.yml*
- Loading an environment
  - *conda env create -n {desired env name} -f {env name}.yml*
- Useful commands
  - *conda --version* : anaconda 버전 확인
  - *conda info* : 현재 설치된 conda에 대한 정보 출력
  - *conda info -e* : 설치된 개발 환경 목록 출력

Create the conda environment

- Load the environment from “environment.yml”
  - *conda env create -f environment.yml*
  - We will use this environment (cv_course) through the course.
- Activate the environment
  - *conda activate cv_course*

```
(cv_course) C:\>
```

environment.yml

```yaml
name: cv_course
channels:
  - conda-forge
  - defaults
dependencies:
  - python=3.8
  - pip
  - jupyterlab
  - notebook
  - ipywidgets
  - tqdm
  - numpy
  - matplotlib
  - scikit-image
#  - cudatoolkit=11.1
  - cudatoolkit=10.2
  - pytorch::pytorch
  - pytorch::torchvision
  - tensorflow-gpu

  - pip:
      - opencv-python
```