

# Setup

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# Python Setup for Windows User

1. Git 가입 및 설치
2. Lab 프로젝트 다운로드
3. Anaconda 설치
4. Python Editor [optional]

# 1. Git 가입 및 설치

- Github 가입: <https://github.com>
- 링크 참고하여 설치 : ([링크](#))
- 설치 후 git 사용자 자격 증명 부여
  - 제어판 - 사용자 계정 - 자격증명관리자
  - Windows 자격 증명
  - 일반 자격 증명
  - 일반 자격 증명 추가
    - 인터넷 또는 네트워크 주소: git:https://github.com
    - 사용자 이름: 본인의 github id
    - 암호: 본인의 github password

# 1. Git 가입 및 설치

- Git Bash 실행



- 터미널에서 다음과 같이 계정 설정

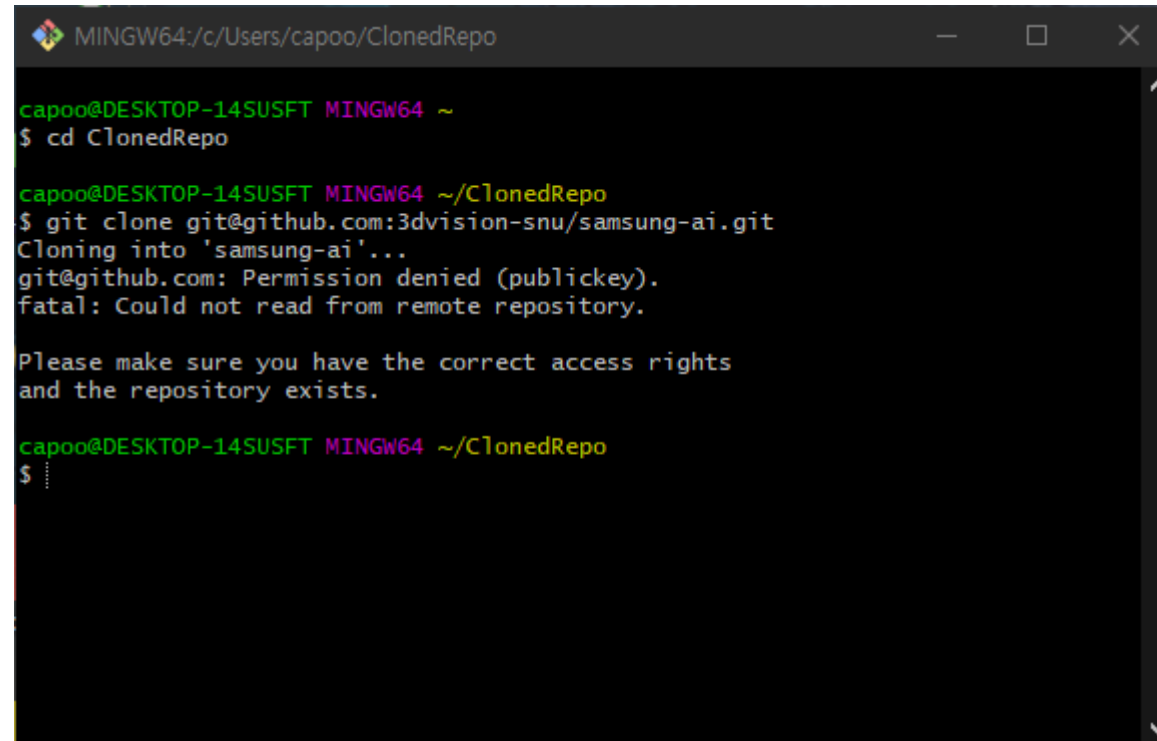
- `git config --global user.name "YOUR GITHUB ID"`
- `git config --global user.email "YOUR GITHUB EMAIL"`

## 2. Lab 프로젝트 다운로드

- Git Bash 실행
- 프로젝트 클론
  - <https://github.com/3dvision-snu/samsung-ai-2022>
  - 먼저 폴더를 내려받고 싶은 디렉토리로 이동
    - ex) ~/ClonedRepo 라는 폴더 안에 폴더를 내려받고 싶다면
    - `mkdir ~/ClonedRepo`
    - `cd ~/ClonedRepo`
  - `git clone git@github.com:3dvision-snu/samsung-ai-2022.git`

## 2. Lab 프로젝트 다운로드

- Permission denied (publickey) 메시지가 뜰 경우

A screenshot of a Windows terminal window titled "MINGW64: c:/Users/capoo/ClonedRepo". The terminal shows a user named "capoo" at a desktop named "DESKTOP-14SUSFT" in a "MINGW64" environment. The user navigates to the "ClonedRepo" directory and attempts to clone a repository from GitHub. The command is "git clone git@github.com:3dvision-snu/samsung-ai.git". The output shows the cloning process starting, but it fails with the error "git@github.com: Permission denied (publickey). fatal: Could not read from remote repository." followed by a message to check access rights and repository existence. The terminal window has a dark background with green and white text. The title bar shows standard Windows window controls (minimize, maximize, close).

```
MINGW64: c:/Users/capoo/ClonedRepo

capoo@DESKTOP-14SUSFT MINGW64 ~
$ cd ClonedRepo

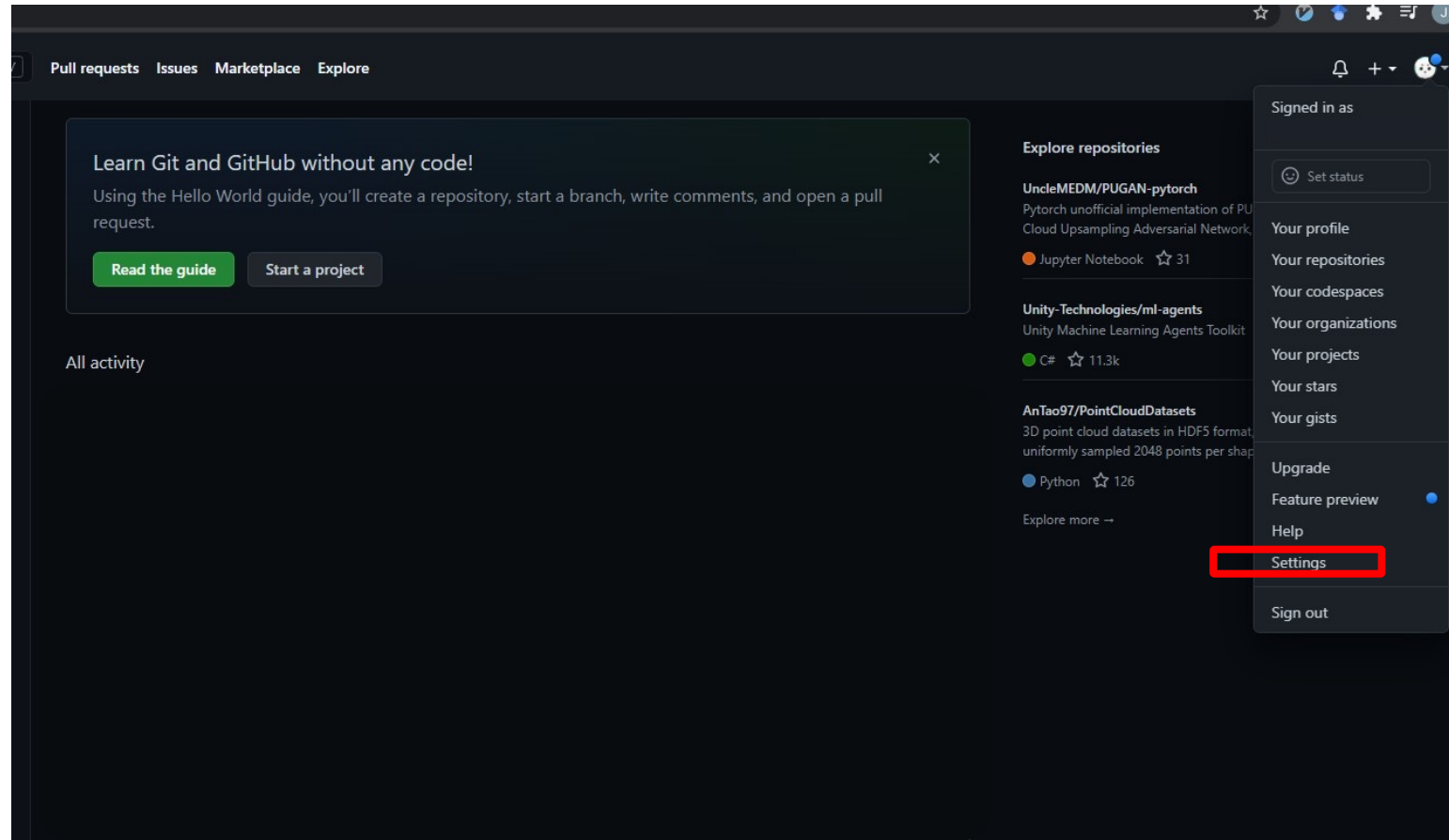
capoo@DESKTOP-14SUSFT MINGW64 ~/ClonedRepo
$ git clone git@github.com:3dvision-snu/samsung-ai.git
Cloning into 'samsung-ai'...
git@github.com: Permission denied (publickey).
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.

capoo@DESKTOP-14SUSFT MINGW64 ~/ClonedRepo
$
```

## 2. Lab 프로젝트 다운로드

- Permission denied (publickey) 메시지가 뜰 경우
- 해결 방법
  - gitub에 로그인
  - 우측 상단의 아이콘을 누르고 Settings 클릭



## 2. Lab 프로젝트 다운로드

- Permission denied (publickey) 메시지가 뜰 경우
- 해결 방법
  - SSH and GPG keys → New SSH Key

The screenshot shows the GitHub account settings page for a user named Jinseok Bae. The left sidebar contains a list of settings categories, with 'SSH and GPG keys' highlighted. The main content area is divided into three sections: 'SSH keys', 'GPG keys', and 'Vigilant mode'. The 'SSH keys' section shows a single key named '3dv-lg' with its SHA256 fingerprint and a 'Delete' button. The 'GPG keys' section indicates that no GPG keys are currently associated with the account. The 'Vigilant mode' section is currently disabled (indicated by a 'Beta' tag and an unchecked checkbox).

**Jinseok Bae**  
Your personal account

Go to your personal profile

Account settings  
Profile  
Account  
Appearance  
Account security  
Billing & plans  
Security log  
Security & analysis  
Emails  
Notifications  
Scheduled reminders  
**SSH and GPG keys**  
Repositories  
Packages  
Organizations  
Saved replies  
Applications  
Developer settings  
Moderation settings  
Blocked users  
Interaction limits

### SSH keys

New SSH key

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.

| Key Name | Fingerprint   | Added               | Permissions                                 | Action |
|----------|---|---------------------|---|--------|
| 3dv-lg   | SHA256: 7KmCV9MT1adDnkjP8UWhmP+CHlg2HgEmIwizZ8tXZ5s | Added on 5 Jul 2021 | Last used within the last week — Read/write | Delete |

Check out our guide to [generating SSH keys](#) or troubleshoot [common SSH problems](#).

### GPG keys

New GPG key

There are no GPG keys associated with your account.

Learn how to [generate a GPG key](#) and add it to your account.

### Vigilant mode Beta

☐ **Flag unsigned commits as unverified**

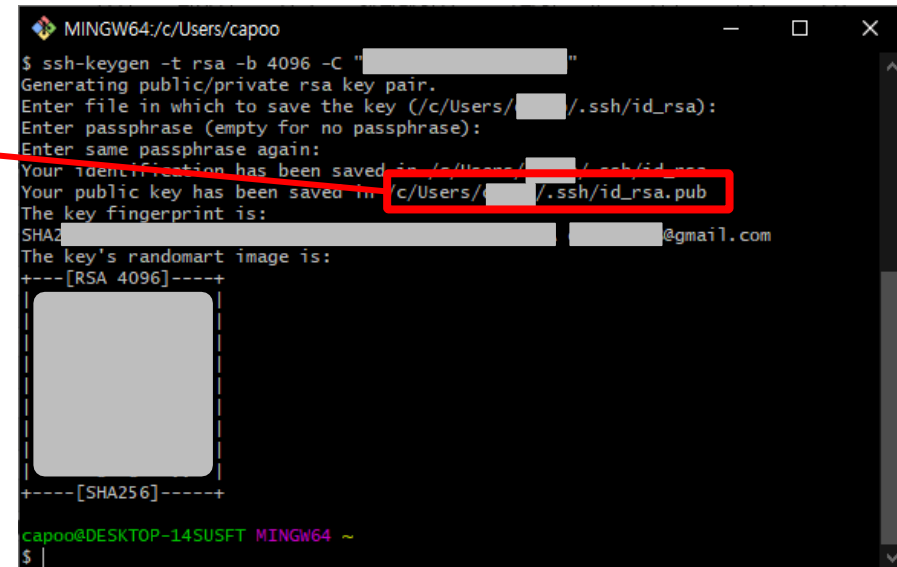
This will include any commit attributed to your account but not signed with your GPG or S/MIME key. Note that this will include your existing unsigned commits.

[Learn about vigilant mode.](#)



## 2. Lab 프로젝트 다운로드

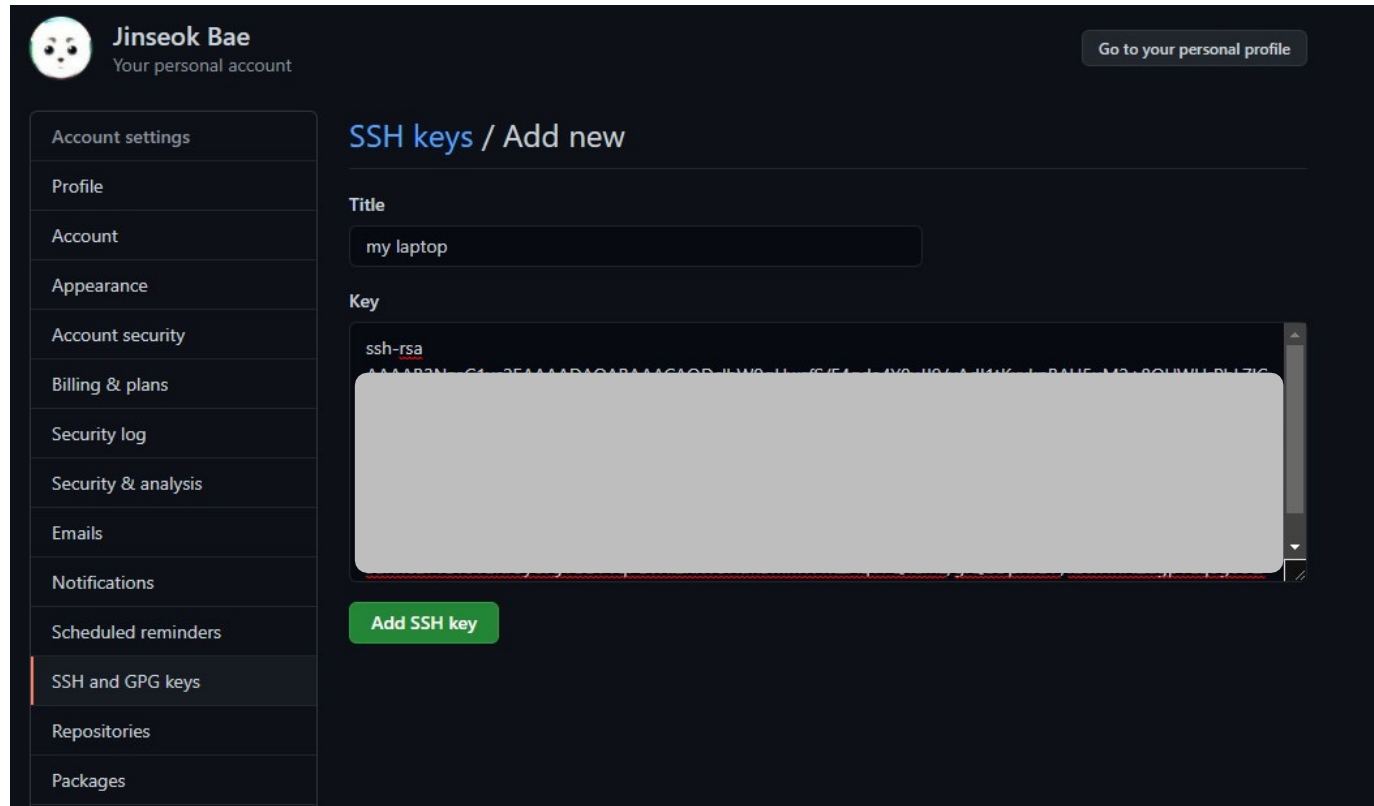
- Permission denied (publickey) 메시지가 뜰 경우
- 해결 방법
  - Git Bash 실행
  - `ssh-keygen -t rsa -b 4096 -C "YOUR GITHUB EMAIL"`
  - Enter file in which to save the key (/c/Users/사용자/.ssh/id\_rsa): 에서 Enter 누르기
  - Enter passphrase (empty for no passphrase): 에서 암호 입력하고 Enter
  - Enter passphrase again: 에서 암호 다시 입력하고 Enter
  - 이 위치로 가서 id\_rsa.pub 파일을 메모장으로 열기
- 전체 내용을 복사



```
MINGW64:/c/Users/capoo
$ ssh-keygen -t rsa -b 4096 -C " "
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/ /ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/ /ssh/id_rsa.
Your public key has been saved in /c/Users/ /ssh/id_rsa.pub
The key fingerprint is:
SHA256:
The key's randomart image is:
+----[RSA 4096]-----+
|
|
|
|
|
+----[SHA256]-----+
capoo@DESKTOP-14SUSFT MINGW64 ~
$
```

## 2. Lab 프로젝트 다운로드

- Permission denied (publickey) 메시지가 뜰 경우
- 해결 방법
  - 다시 Github 사이트로 돌아가서 기기를 나타낼 수 있는 적당한 title을 치고, 복사한 key를 붙여넣기
  - Confirm Access



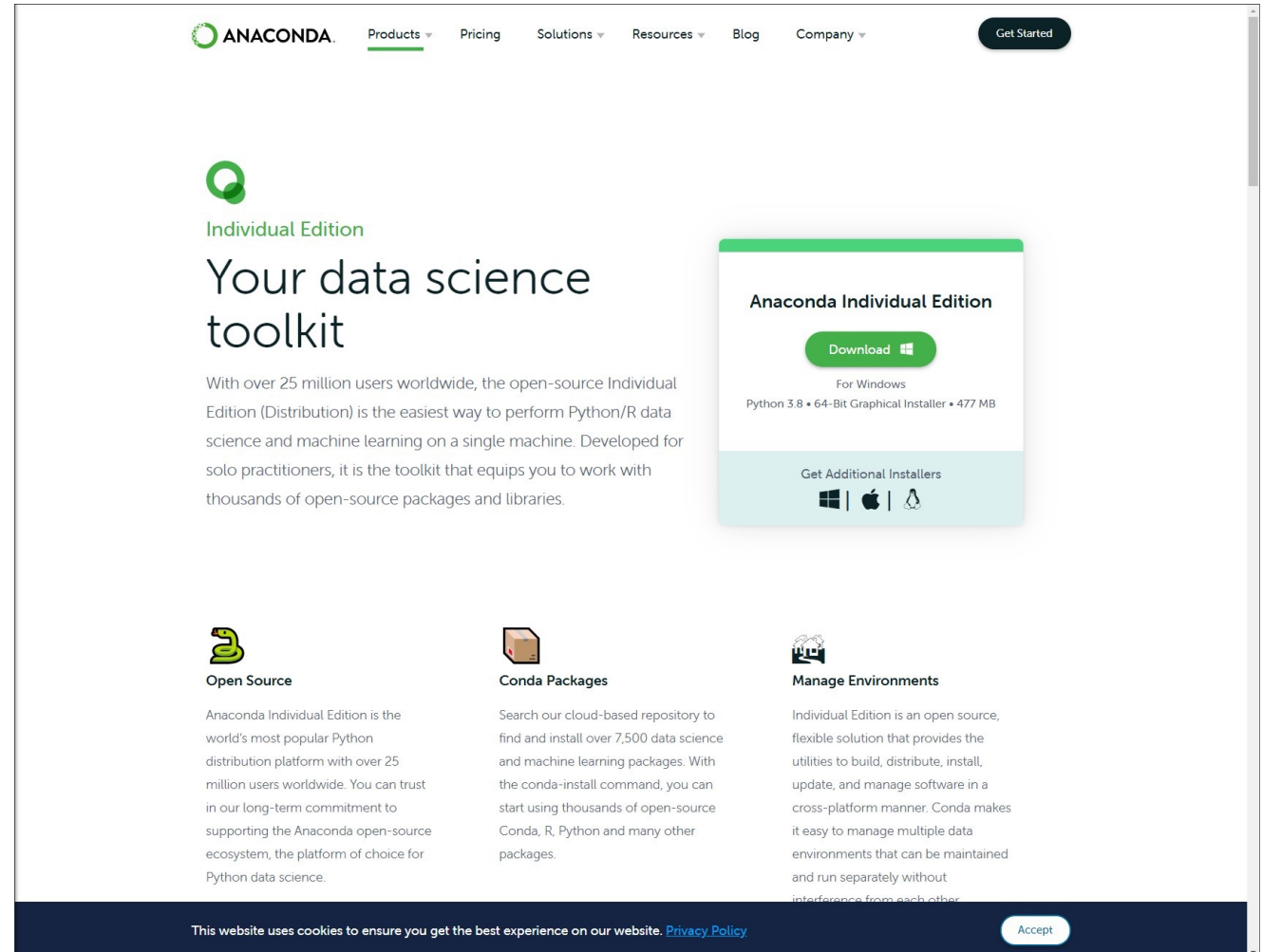
## 2. Lab 프로젝트 다운로드

- Permission denied (publickey) 메시지가 뜰 경우
- 해결 방법
  - Git bash 에서 다시 git clone 시도
  - `git clone git@github.com:3dvision-snu/samsung-ai-2022.git`
  - 아까 입력했던 암호 입력 후 Enter
  - 정상적으로 폴더가 다운되는 것을 확인

```
capoo@DESKTOP-14SUSFT MINGW64 ~/ClonedRepo
$ git clone git@github.com:3dvision-snu/samsung-ai.git
Cloning into 'samsung-ai'...
Enter passphrase for key '/c/Users/[redacted]/.ssh/id_rsa': |
```

# 3. Anaconda 설치

- Anaconda 사이트에서 windows 버전 installer 다운로드
- <https://www.anaconda.com/products/individual>
- .exe 파일 실행 및 설치



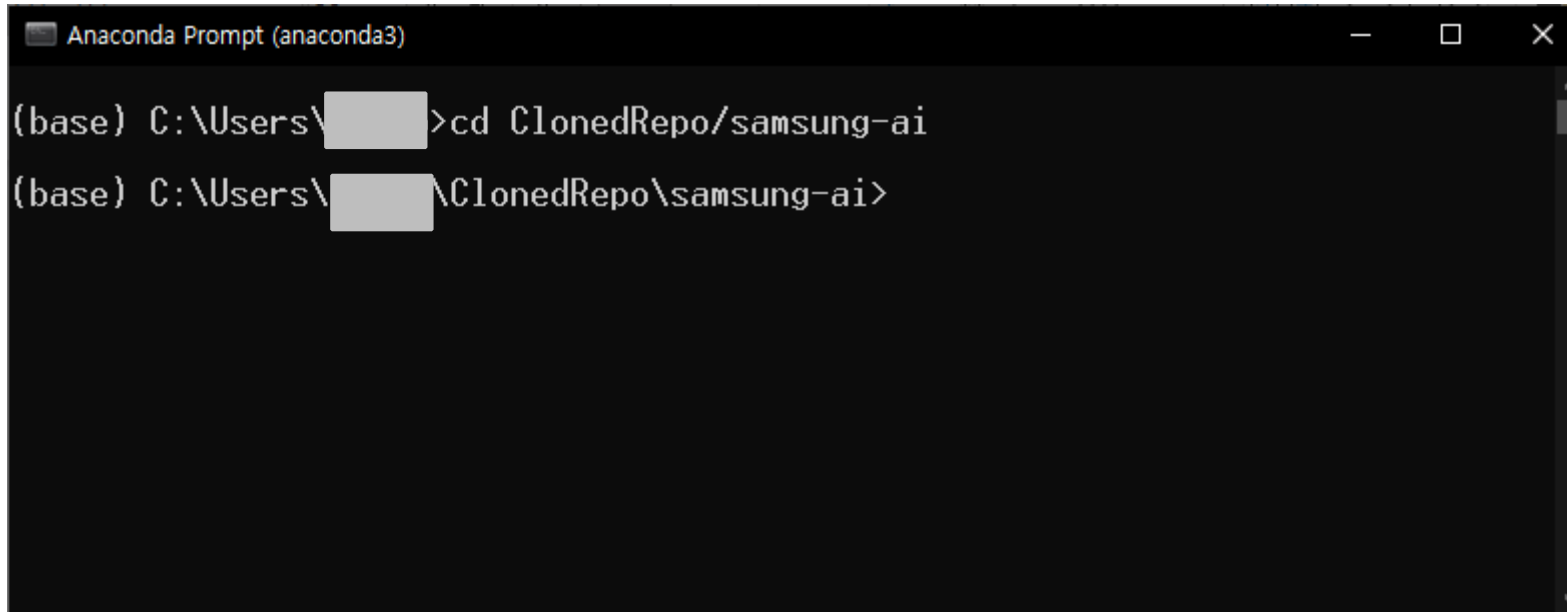
### 3. Anaconda 설치

- 설치 종료되면 Anaconda Prompt 실행



### 3. Anaconda 설치

- `cd ClonedRepo/samsung-ai-2022` 와 같이 내려받은 폴더로 이동

A screenshot of the Anaconda Prompt terminal window. The title bar reads "Anaconda Prompt (anaconda3)". The terminal shows two lines of command execution. The first line is "(base) C:\Users\[redacted]>cd ClonedRepo/samsung-ai", where the user's name is redacted with a grey box. The second line is "(base) C:\Users\[redacted]\ClonedRepo\samsung-ai>", where the full path is shown and the user's name is again redacted with a grey box. The prompt character is a greater-than sign (>).

```
Anaconda Prompt (anaconda3)
(base) C:\Users\[redacted]>cd ClonedRepo/samsung-ai
(base) C:\Users\[redacted]\ClonedRepo\samsung-ai>
```

### 3. Anaconda 설치

- 터미널 창에 다음과 같이 입력하여 가상환경 생성
  - `conda create -n samsung python=3.8` (이미 samsung이라는 env 있을 경우 다른 이름 사용)
  - y 입력 후 Enter

```
Anaconda Prompt (anaconda3) - conda create -n samsung-3dv python=3.8

ca-certificates      pkgs/main/win-64::ca-certificates-2021.7.5-haa95532_1
certifi              pkgs/main/win-64::certifi-2021.5.30-py38haa95532_0
openssl              pkgs/main/win-64::openssl-1.1.1k-h2bfff1b_0
pip                  pkgs/main/win-64::pip-21.1.3-py38haa95532_0
python               pkgs/main/win-64::python-3.8.10-hdbf39b2_7
setuptools           pkgs/main/win-64::setuptools-52.0.0-py38haa95532_0
sqlite               pkgs/main/win-64::sqlite-3.36.0-h2bfff1b_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/noarch::wheel-0.36.2-pyhd3eb1b0_0
wincertstore         pkgs/main/win-64::wincertstore-0.2-py38_0

Proceed ([y]/n)?
```

### 3. Anaconda 설치

- 터미널 창에 다음과 같이 입력하여 가상환경 실행 후 패키지 다운로드
  - `conda activate samsung` : (base) → (samsung) 으로 바뀐 것 확인

```
(base) C:\Users\██████\ClonedRepo\samsung-ai>conda activate samsung  
(samsung) C:\Users\██████\ClonedRepo\samsung-ai>
```

- `pip install -r requirements.txt`
- 패키지 다운로드 완료
- 패키지 다운로드 잘 됐는지 확인
  - `python`
  - `import open3d`
  - 정상적으로 import 되면 설치 잘 된 것으로 간주

```
(samsung) C:\Users\capoo\ClonedRepo\samsung-ai>python  
Python 3.8.10 (default, May 19 2021, 13:12:57) [MSC v.1916 64 bit (AMD64)] ::  
Anaconda, Inc. on win32  
Type "help", "copyright", "credits" or "license" for more information.  
>>> import open3d  
>>>
```

- 향후 `python SOME_FILE.py`를 입력함으로써 파이썬 파일 실행 가능



## 4. Python Editor [Optional]

- Editor를 사용하면 문법 교정 등에 편리함
- 추천 Editor (무료로 사용가능)
  - PyCharm (Community) <https://www.jetbrains.com/ko-kr/pycharm/download/#section=windows>
  - Vscode <https://code.visualstudio.com/download>