Feola Lab Mouse Segmentation software for Mouse Annular Scan Segmentation

This guide is for the Feola Lab software for Mouse Annular Scan Segmentation on Windows, macOS, and Linux. It explains how to install Anaconda, create a Conda environment using the `environment.yml` file, and run the GUI.

The first step is to place our software folder in your computer. If you do not have it you can download it from : ADD PERMANENT LINK

If you encounter troubles, you can email Gabriela: grodrguez3@gatech.edu

Windows Setup Guide

Step 1: Install Anaconda if you do not have it installed

1. Open your web browser and go to `https://www.anaconda.com/download`.
2. Under Windows, click **Download** (64-bit).
3. The file will be something like `Anaconda3-202X-Windows-x86_64.exe`.
4. Double-click the file to start the installer.
5. Click **Next** until you reach the "Installation Type" screen.
6. Choose **"Just Me"** and click **Next**.
7. Accept the default install location, e.g., `C:\Users\YourName\Anaconda3`.
8. **Important**: Check the box **"Add Anaconda to my PATH environment variable"**.
9. Click **Install** and wait for the process to finish.
10. Click **Finish**.

Step 2: Open Anaconda Prompt

1. Click the **Start Menu**.
2. Type **"Anaconda Prompt"** and select it.

Step 3: Navigate to the Script Folder

```
cd C:\Path\To\Your\Mouse-Segmentation
```

Example:

```
cd C:\Users\YourName\Documents\Mouse-Segmentation
```

Step 4: Create the Conda Environment from `environment.yml`

1. In Anaconda Prompt:

   ```
   conda env create -f environment.yml
   ```

2. This creates an environment.

Step 5: Activate the Conda Environment

```
conda activate mouse_segmentation
```

Step 6: Run the GUI

```
python GUI_sys.py
```

A window should pop up with the graphical interface.

1. Select Input folder, where imaegs are stored. To test installation, select included Test folder called "TestImages" within program folder.

2. Select Output folder, where segmentation and thickness will be saved. To test installation, select included Test folder called "TestOutputs" within program folder.

3. After program is done running, check outputs in "TestOutputs" folder.

Close the window to exit.

macOS Setup Guide

Step 1: Install Anaconda if you do not have it installed

1. Go to `https://www.anaconda.com/download`.
2. Under macOS, choose Intel or Apple Silicon (depending on your Mac).
3. Download the `.pkg` file (e.g., `Anaconda3-202X-MacOS.pkg`).
4. Double-click it and follow the instructions.
5. Leave everything at the defaults and click **Install**.
6. Click **Close** when done.

Step 2: Open Terminal

1. Press **Cmd + Space**.
2. Type **"Terminal"** and hit **Enter**.

Step 3: Navigate to the Script Folder

```
cd /Path/To/Your/Mouse-Segmentation
```

Example:

```
cd ~/Documents/Mouse-Segmentation
```

Step 4: Create the Conda Environment from `environment.yml`

1. Make sure `environment.yml` is in `Mouse-Segmentation`.
2. In Terminal:

   ```
   conda env create -f environment.yml
   ```

Step 5: Activate the Conda Environment

```
conda activate mouse_segmentation
```

(or the name inside `environment.yml`).

Step 6: Run the GUI

```
python GUI_sys.py
```

The GUI should appear.

1. Select Input folder, where imaegs are stored. To test installation, select included Test folder called "TestImages" within program folder.

2. Select Output folder, where segmentation and thickness will be saved. To test installation, select included Test folder called "TestOutputs" within program folder.

3. After program is done running, check outputs in "TestOutputs" folder.

Close it to exit.

Linux Setup Guide

Step 1: Install Anaconda if you do not have it installed

1. Open **Terminal** (e.g., `Ctrl + Alt + T`).
2. Download Anaconda:

   ```
   wget https://repo.anaconda.com/archive/Anaconda3-202X-Linux-x86_64.sh
   ```

3. Install it:

   ```
   bash Anaconda3-202X-Linux-x86_64.sh
   ```

4. Accept the license, install to the default location, and type `yes` when prompted to initialize.
5. Restart terminal:

   ```
   source ~/.bashrc
   ```

6. Check:

   ```
   conda --version
   ```

   Should show something like `conda 4X.X.X`.

Step 2: Navigate to the Script Folder

```
cd /Path/To/Your/Mouse-Segmentation
```

Example:

```
cd ~/Mouse-Segmentation
```

Step 3: Create the Conda Environment from `environment.yml`

```
conda env create -f environment.yml
```

This will create the environment (e.g., `mouse`$_s$*egmentation*).

Step 4: Activate the Conda Environment

```
conda activate mouse_segmentation
```

```
(Adjust to match the environment name if different.)
```

Step 5: Run the GUI

```
python GUI_sys.py
```

The GUI will appear.

1. Select Input folder, where imaegs are stored. To test installation, select included Test folder called "TestImages" within program folder.
2. Select Output folder, where segmentation and thickness will be saved. To test installation, select included Test folder called "TestOutputs" within program folder.
3. After program is done running, check outputs in "TestOutputs" folder.

Close the window to exit.

Installation Summary Table

OS	Steps
Windows	1) Install Anaconda 2) Open Anaconda Prompt 3) cd C:\Path\To\Mouse-Segmentation 4) conda env create -f environment.yml 5) conda activate mouse_segmentation 6) python GUI_sys.py
macOS	1) Install Anaconda 2) Open Terminal 3) cd /Path/To/Mouse-Segmentation 4) conda env create -f environment.yml 5) conda activate mouse_segmentation 6) python GUI_sys.py
Linux	1) Install Anaconda 2) Open Terminal 3) cd /Mouse-Segmentation 4) conda env create -f environment.yml 5) conda activate mouse_segmentation 6) python GUI_sys.py

Running after installation

OS	Steps
Windows	1) Open Anaconda Prompt 2) cd C:\Path\To\Mouse-Segmentation If the program folder is in a remote drive you may need to use pushd C:\Path\To\Mouse-Segmentation 3) conda activate mouse_segmentation 4) python GUI_sys.py
macOS	1) Open Terminal 2) cd /Path/To/Mouse-Segmentation 3) conda activate mouse_segmentation 4) python GUI_sys.py
Linux	1) Open Terminal 2) cd /Mouse-Segmentation 3) conda activate mouse_segmentation 4) python GUI_sys.py

Important Notes

- Only **create the environment once**. After that, just **activate** and **run**.
- The environment name in this guide is mouse_segmentation.

- Make sure GUI_sys.py is in the Mouse-Segmentation folder so that the Python script can be found when you run python GUI_sys.py.