

Setting up an environment for collaboration

Contents

- Anaconda (Virtual environment)
- GitHub (Code sharing)

Anaconda

- Anaconda includes Python and a large number of modules designed for scientific computing.
- Create 'Virtual environment' of python that helps share codes with the same version of packages.



- To install
 - Anaconda.com
 - Products
 - Individual Edition

Data science technology for
a better world.

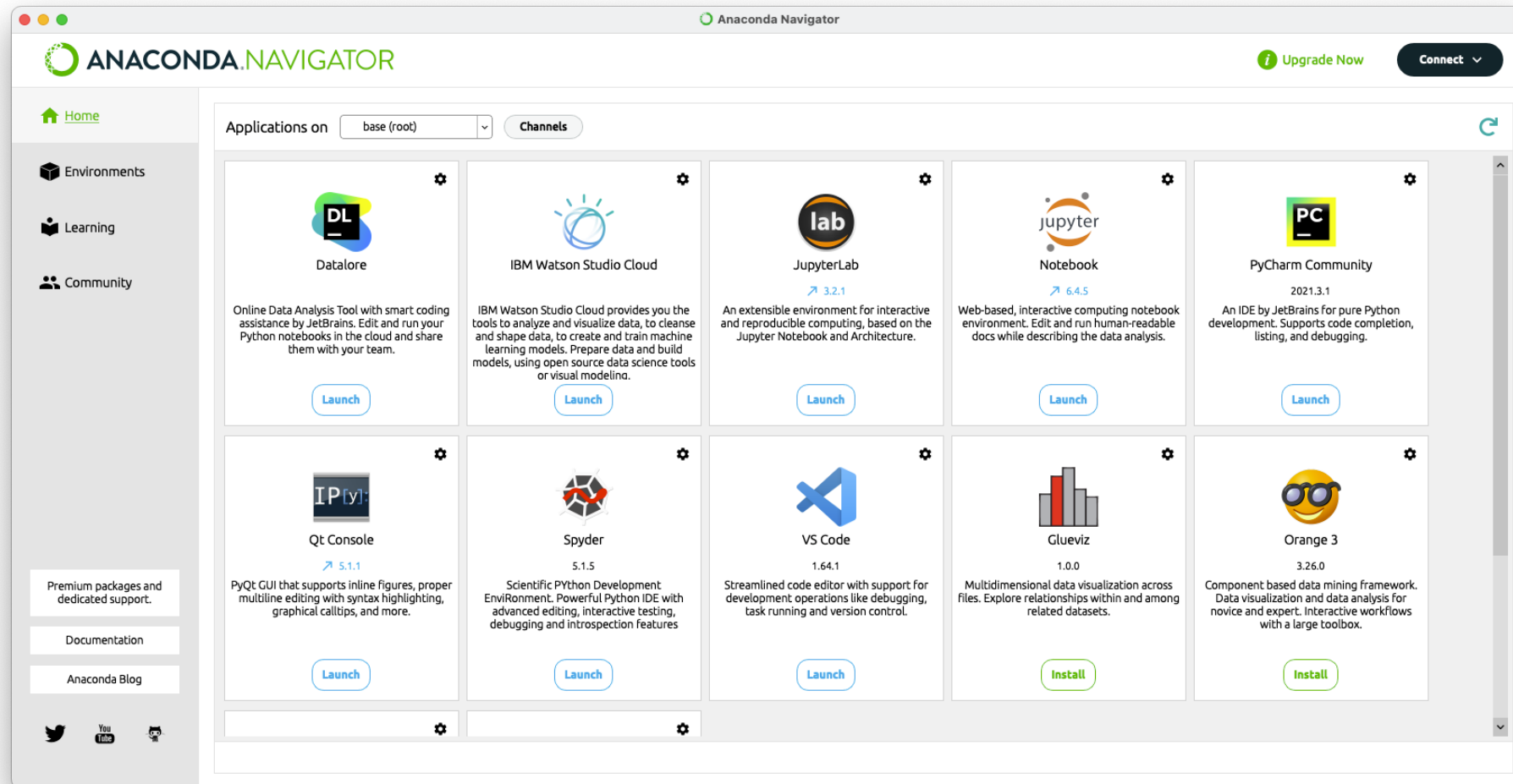
A movement that brings together millions of data science practitioners,
data-driven enterprises, and the open source community.



Get Started

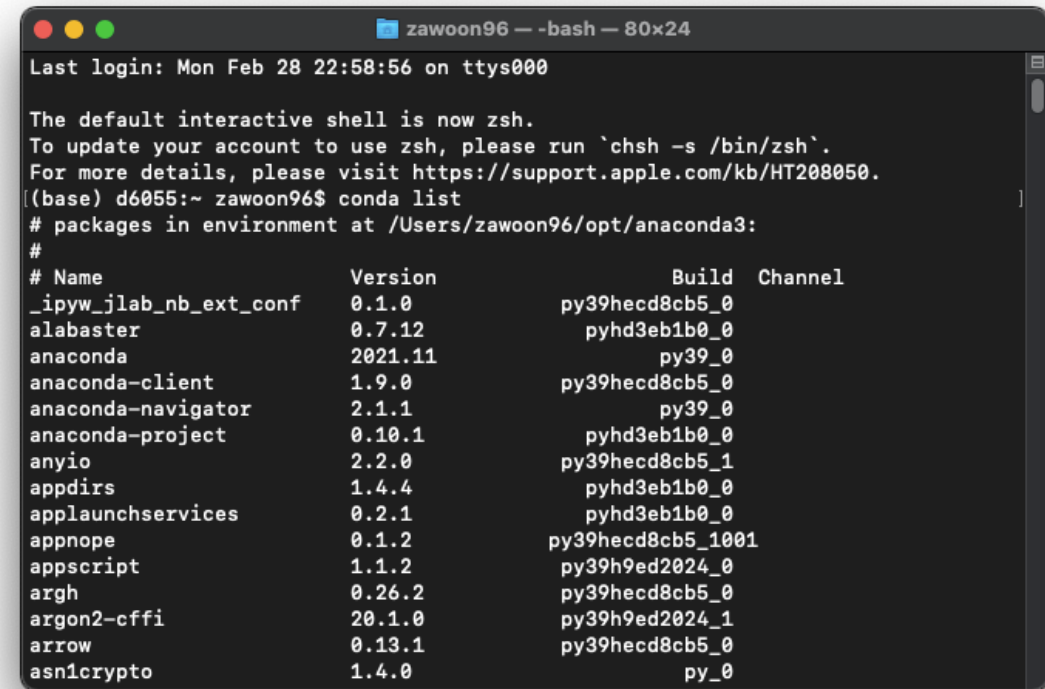


Through GUI: Anaconda Navigator



Through Command Line

- Terminal (Mac)
- Anaconda Power Shell Prompt (Windows)



```
zawoon96 — -bash — 80x24
Last login: Mon Feb 28 22:58:56 on ttys000

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
(base) d6055:~ zawoon96$ conda list
# packages in environment at /Users/zawoon96/opt/anaconda3:
#
# Name                                Version           Build    Channel
_ipyw_jlab_nb_ext_conf               0.1.0             py39hecd8cb5_0
alabaster                             0.7.12            pyhd3eb1b0_0
anaconda                             2021.11           py39_0
anaconda-client                       1.9.0             py39hecd8cb5_0
anaconda-navigator                    2.1.1             py39_0
anaconda-project                      0.10.1            pyhd3eb1b0_0
anyio                                 2.2.0             py39hecd8cb5_1
appdirs                               1.4.4             pyhd3eb1b0_0
applaunchservices                     0.2.1             pyhd3eb1b0_0
appnope                               0.1.2             py39hecd8cb5_1001
appscript                             1.1.2             py39h9ed2024_0
argh                                  0.26.2            py39hecd8cb5_0
argon2-cffi                           20.1.0            py39h9ed2024_1
arrow                                 0.13.1            py39hecd8cb5_0
asn1crypto                            1.4.0             py_0
```

Command line: Create an environment

- Check the environment that is installed on your anaconda
 - `conda env list`
- Create a new environment
 - `conda create --name 'myenv'`
 - e.g., `conda create --name geog489`
- Activate the new environment just created
 - `conda activate geog489`
 - `conda deactivate`

Command line: Install packages

- Install packages
 - Followed by the instruction provided by packages
 - E.g. GeoPandas
 - `conda install --channel conda-forge geopandas`
 - E.g. Jupyter Notebook
 - `Conda install -channel conda-forge notebook`
- Update packages
 - `conda update `package name``
- Check installed packages
 - `conda list`

Command line

- Export environment for sharing purposes
 - `conda env export > 'filename.yml'`
 - e.g., `conda env export > geog489_test.yml`
- Delete packages / environment
 - The environment: `conda remove --name geog489 --all`
 - A package: `conda remove 'package name'`
- Create environment from a file
 - `conda env create -f 'filename.yml'`

Git / Github

- Git is developed by Linus Torvalds in 2005 and designed for a version control (or track changes to file) on Linux kernel.
- Git != GitHub
 - Git is a version control system that lets you manage and keep track of your source code history
 - GitHub is a cloud-based hosting service that lets you manage Git repositories.

Create a new repo

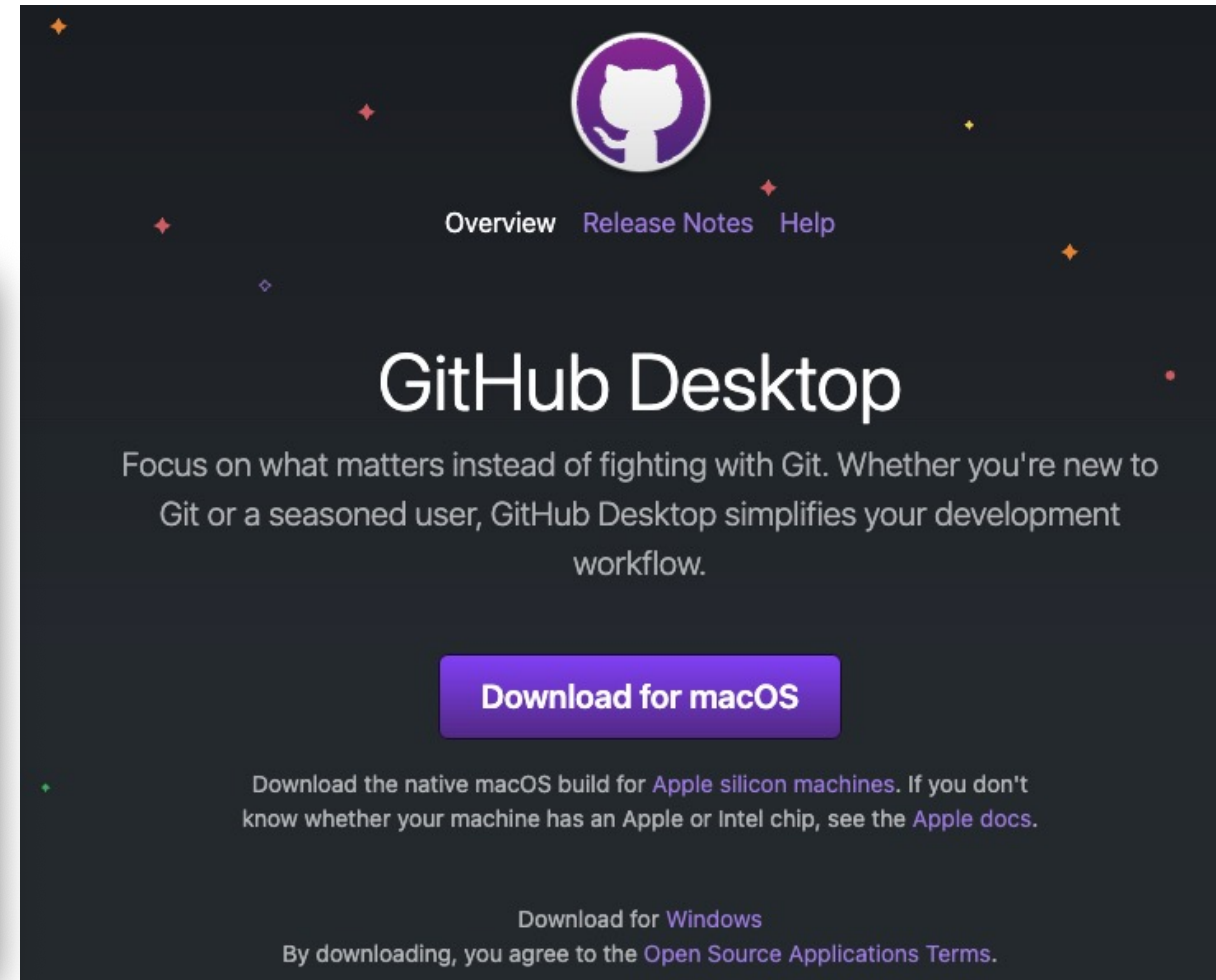
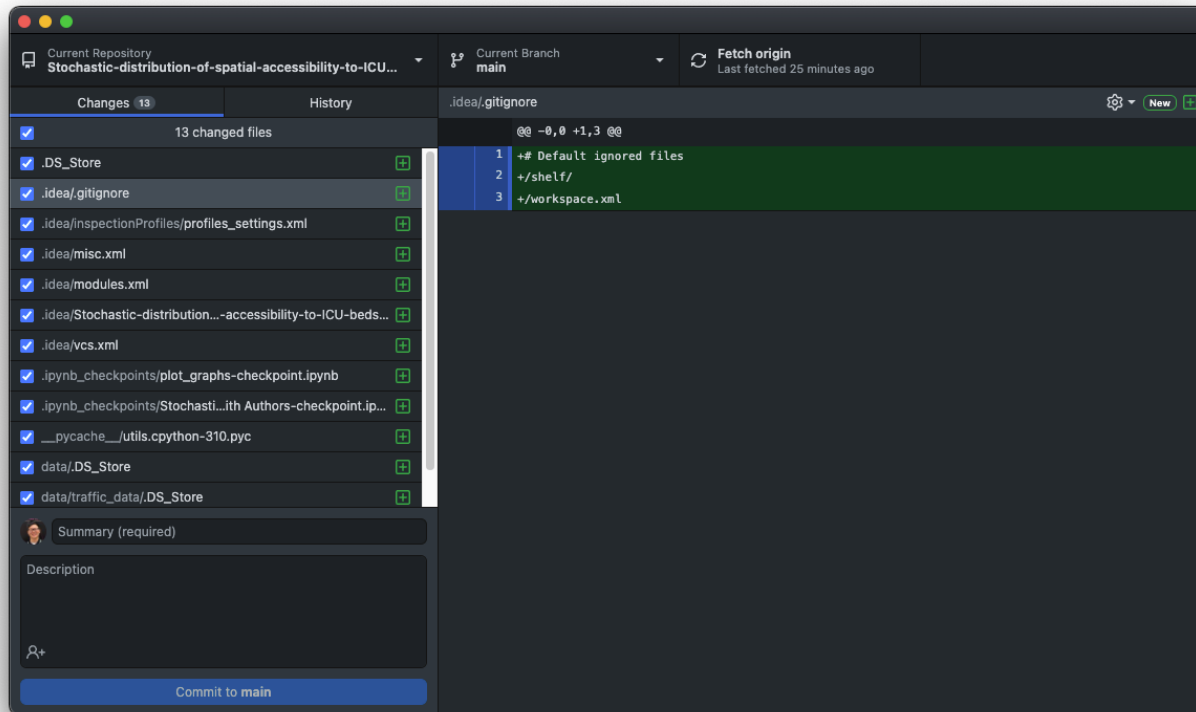
- <https://github.com/>

The screenshot shows the GitHub interface for a repository named 'GEOG489_Test1' by user 'jparkgeo'. The repository is public and has 1 branch (main) and 0 tags. The 'main' branch is selected. The repository contains three files: '.gitignore', 'LICENSE', and 'README.md', all from the initial commit. The 'README.md' file is open, showing the title 'GEOG489_Test1'. The right sidebar shows the 'About' section with no description, website, or topics provided, and 0 stars, 1 watching, and 0 forks. The 'Releases' and 'Packages' sections also show no published items.

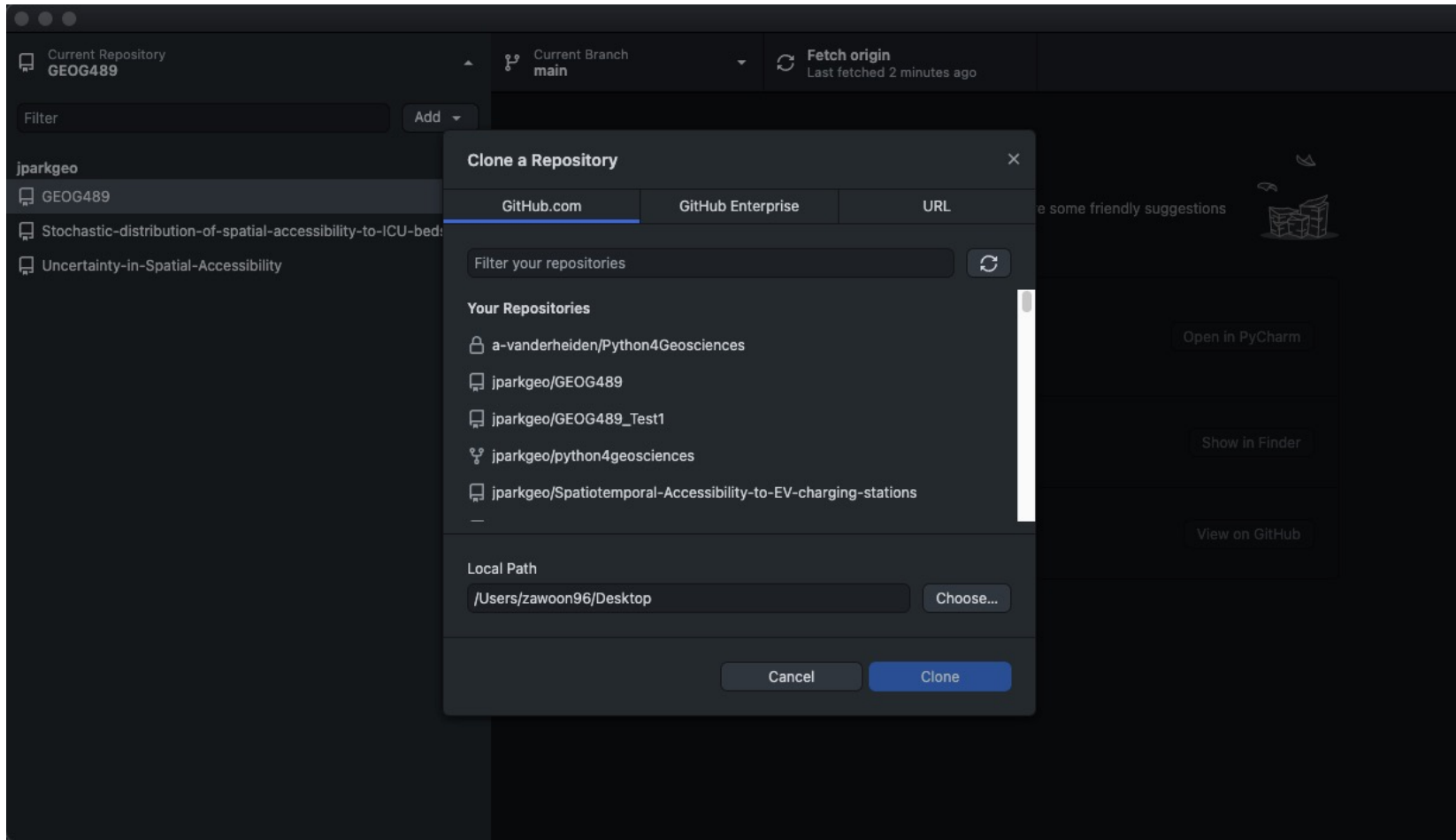
The screenshot shows the 'Create a new repository' form. The 'Owner' is 'jparkgeo' and the 'Repository name' is 'GEOG489_Test1'. The 'Description' field is empty. The 'Public' option is selected. The 'Initialize this repository with:' section has three checked options: 'Add a README file', 'Add .gitignore' (with 'Python' selected as the template), and 'Choose a license' (with 'MIT License' selected). The 'Create repository' button is at the bottom.

GitHub Desktop

- <https://desktop.github.com/>



Clone repo to local



Managing repo

- 'Commit' is simply a checkpoint telling git to track all changes that have occurred up to this point using our last commit as a comparison.
- 'Push' uploads local repository content to a remote repository.
- 'Pull' fetches and downloads content from a remote repository and immediately update the local repository to match the content.
- Source: <https://medium.com/mindorks/what-is-git-commit-push-pull-log-aliases-fetch-config-clone-56bc52a3601c>

Q&A

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