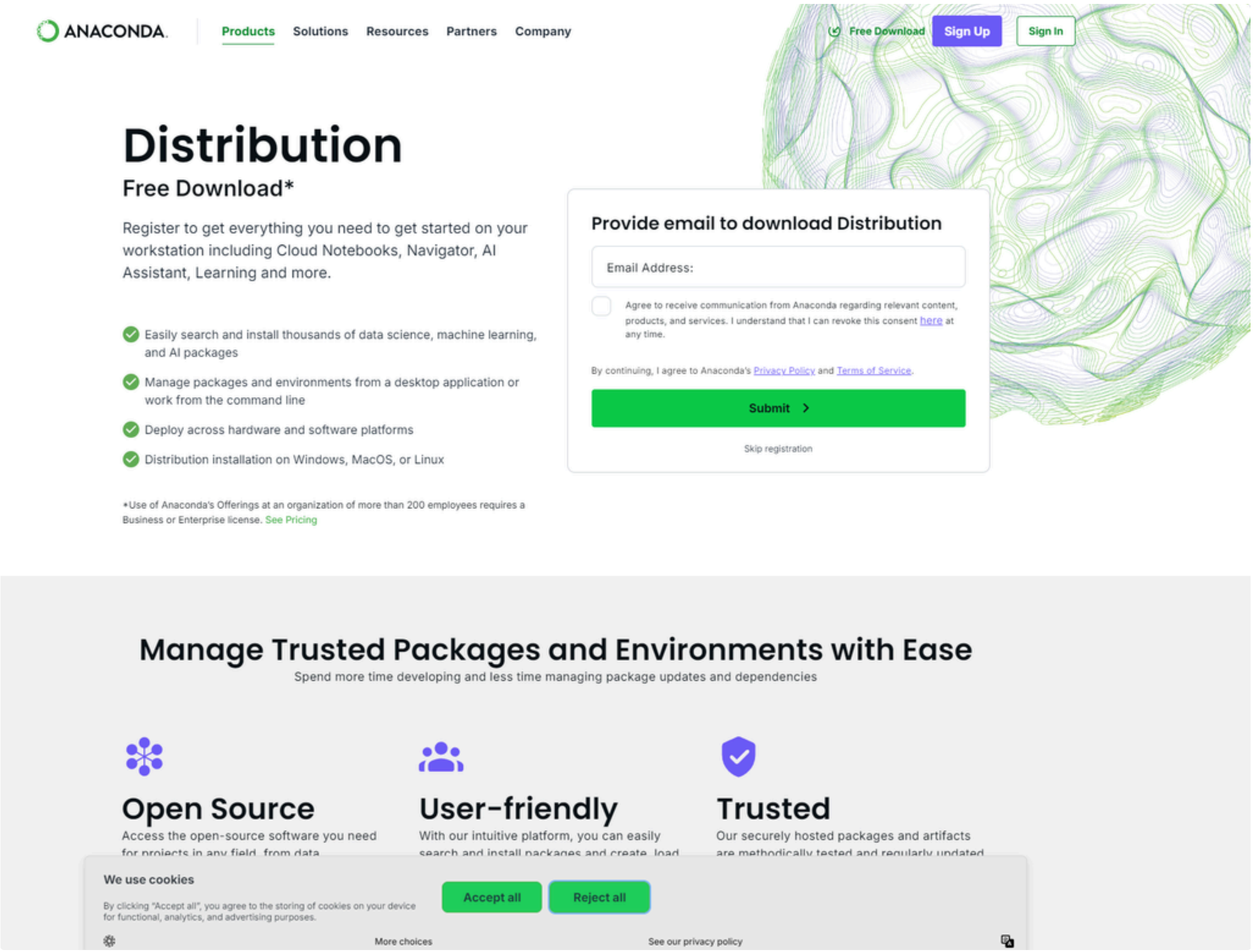
Installation Python

There are a few ways to install Python on your computer. For ease we will demonstrate how to install Python via Anaconda. Anaconda is an open source package and environment management system that can be installed on all OS. This page is a shorter version of the page found here User guide — conda 24.9.2.dev13 documentation which will provide further information.

Installing Anaconda

To install Anaconda, we will need to download the anaconda installer. You can find this by going to Download Anaconda Distribution | Anaconda and selecting **Free Download** at the top. IF this doesn’t work, click on the **Skip registration** button below the **Submit** button.



Distribution

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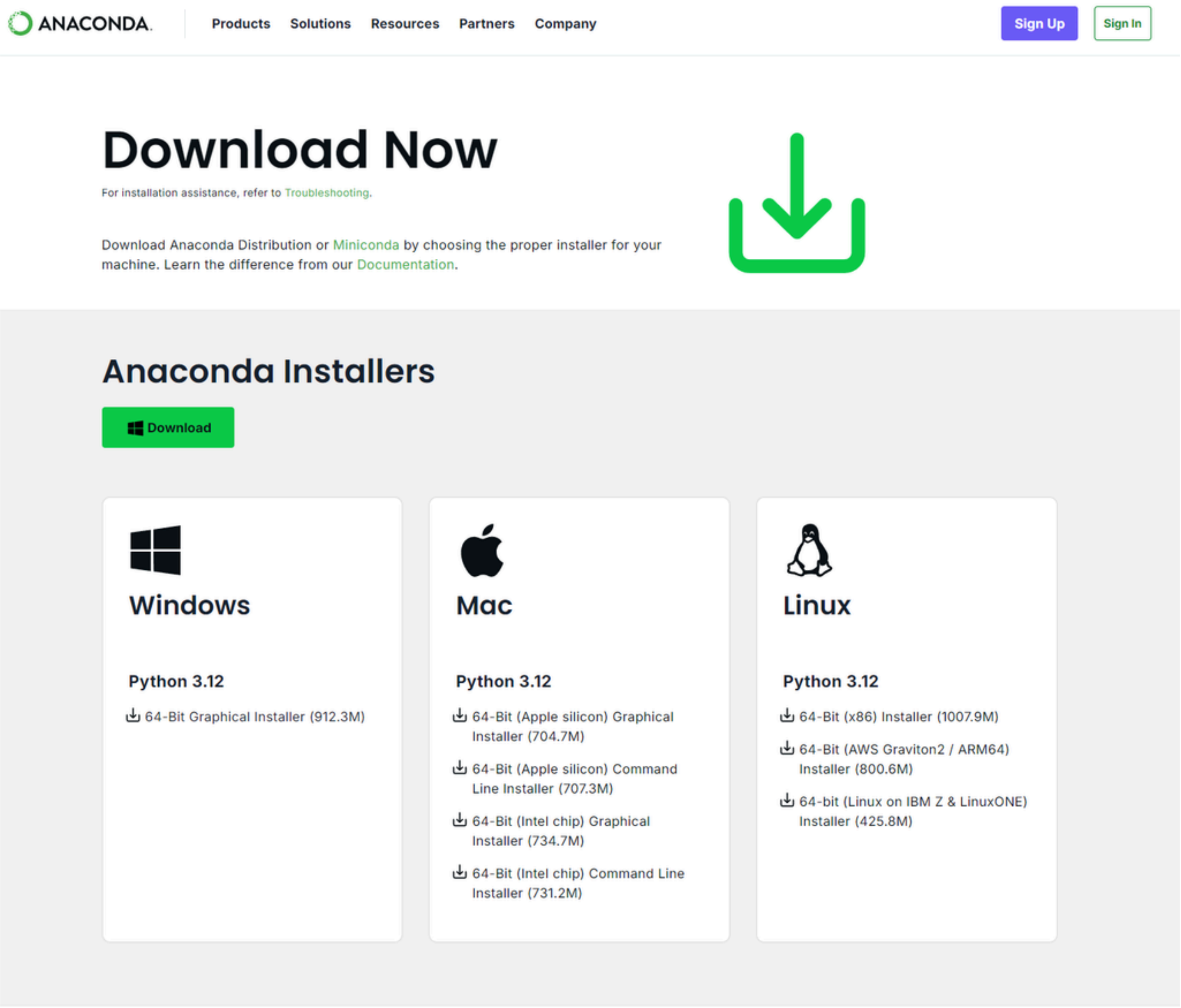
Once you get to the below page, select which OS your computer is using and install the program.



Download Now

For installation assistance, refer to Troubleshooting.

Download Anaconda Distribution or Miniconda by choosing the proper installer for your machine. Learn the difference from our Documentation.

Anaconda Installers

Windows

Python 3.12

- 64-Bit Graphical Installer (912.3M)

Mac

Python 3.12

- 64-Bit (Apple silicon) Graphical Installer (704.7M)
- 64-Bit (Apple silicon) Command Line Installer (707.3M)
- 64-Bit (Intel chip) Graphical Installer (734.7M)
- 64-Bit (Intel chip) Command Line Installer (731.2M)

Linux

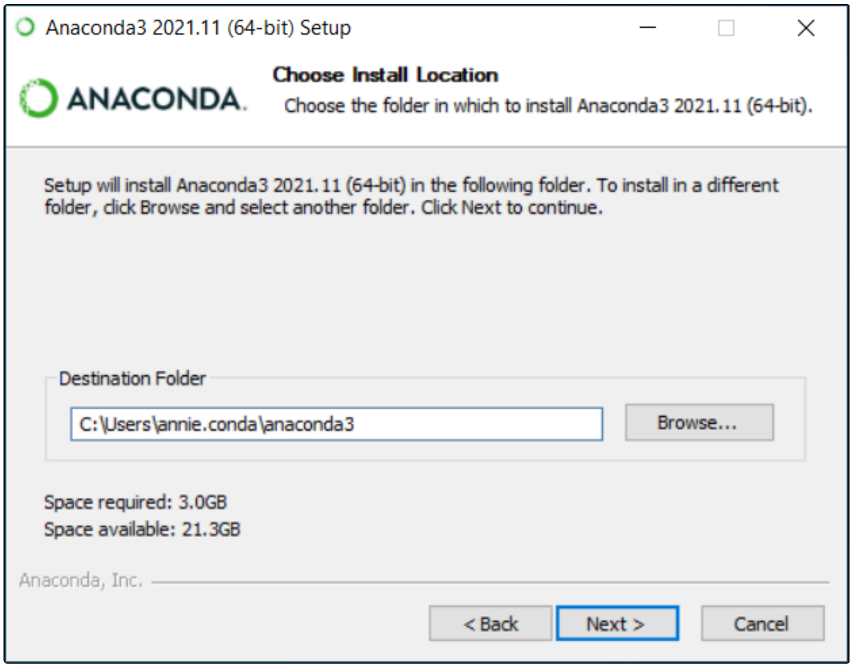
Python 3.12

- 64-Bit (x86) Installer (1007.9M)
- 64-Bit (AWS Graviton2 / ARM64) Installer (800.6M)
- 64-bit (Linux on IBM Z & LinuxONE) Installer (425.8M)

Go to the downloaded file and double click to open the installer. Follow the prompts and continue installing Anaconda.

> It is recommended that you install for **Just Me**, which will install Anaconda Distribution to just the current user account.

Select a destination folder to install Anaconda and click **Next**. Install Anaconda to a directory path that does not contain spaces or unicode characters.



Choose Install Location

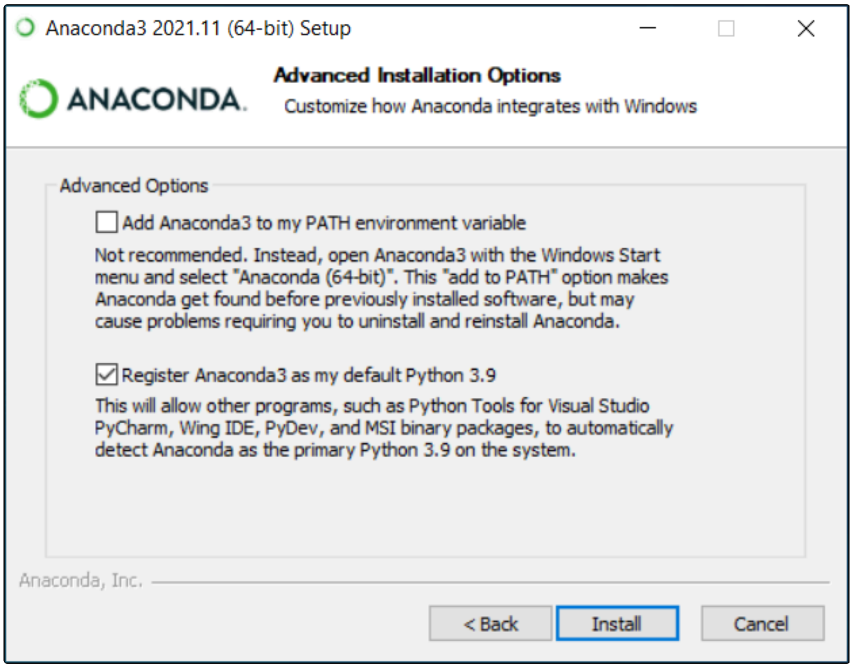
Choose the folder in which to install Anaconda3 2021.11 (64-bit).

Setup will install Anaconda3 2021.11 (64-bit) in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

Destination Folder: C:\Users\annie.conda\anaconda3

Space required: 3.0GB
Space available: 21.3GB

Choose whether to add Anaconda to your PATH environment variable or register Anaconda as your default Python. We **don't recommend** adding Anaconda to your PATH environment variable, since this can interfere with other software. Unless you plan on installing and running multiple versions of Anaconda or multiple versions of Python, accept the default and leave this box checked. Instead, use Anaconda software by opening Anaconda Navigator or the Anaconda Prompt from the Start Menu.



Advanced Installation Options

Customize how Anaconda integrates with Windows

Advanced Options

□ Add Anaconda3 to my PATH environment variable

Not recommended. Instead, open Anaconda3 with the Windows Start menu and select "Anaconda (64-bit)". This "add to PATH" option makes Anaconda get found before previously installed software, but may cause problems requiring you to uninstall and reinstall Anaconda.

☑ Register Anaconda3 as my default Python 3.9

This will allow other programs, such as Python Tools for Visual Studio PyCharm, Wing IDE, PyDev, and MSI binary packages, to automatically detect Anaconda as the primary Python 3.9 on the system.

Click **Install**. If you want to watch the packages Anaconda is installing, click Show Details.

Creating and Opening Environment

To open up your conda terminal follow the direction below for your OS.

Windows

MacOS

1. Open Launchpad.

Linux

Open a terminal window.

Open either the Command Prompt (cmd.exe) or PowerShell.	2. Open the Other application folder. 3. Open the Terminal application.	

Conda allows you to create separate environments, each containing their own files, packages, and package dependencies. The contents of each environment do not interact with each other.

The most basic way to create a new environment is with the following command:

```
conda create -n <env-name>
```

To add packages while creating an environment, specify them after the environment name:

```
conda create -n myenvironment python numpy pandas
```

For more information on working with environments, see Managing environments.

Listing environments

To see a list of all your environments:

```
conda info --envs
```

A list of environments appears, similar to the following:

```
conda environments:

   base           /home/username/Anaconda3
   myenvironment   * /home/username/Anaconda3/envs/myenvironment
```

To change your current environment back to the default `base`:

```
conda activate
```

The active environment is the one with an asterisk (*).

Installing packages

You can also install packages into a previously created environment. To do this, you can either activate the environment you want to modify or specify the environment name on the command line:

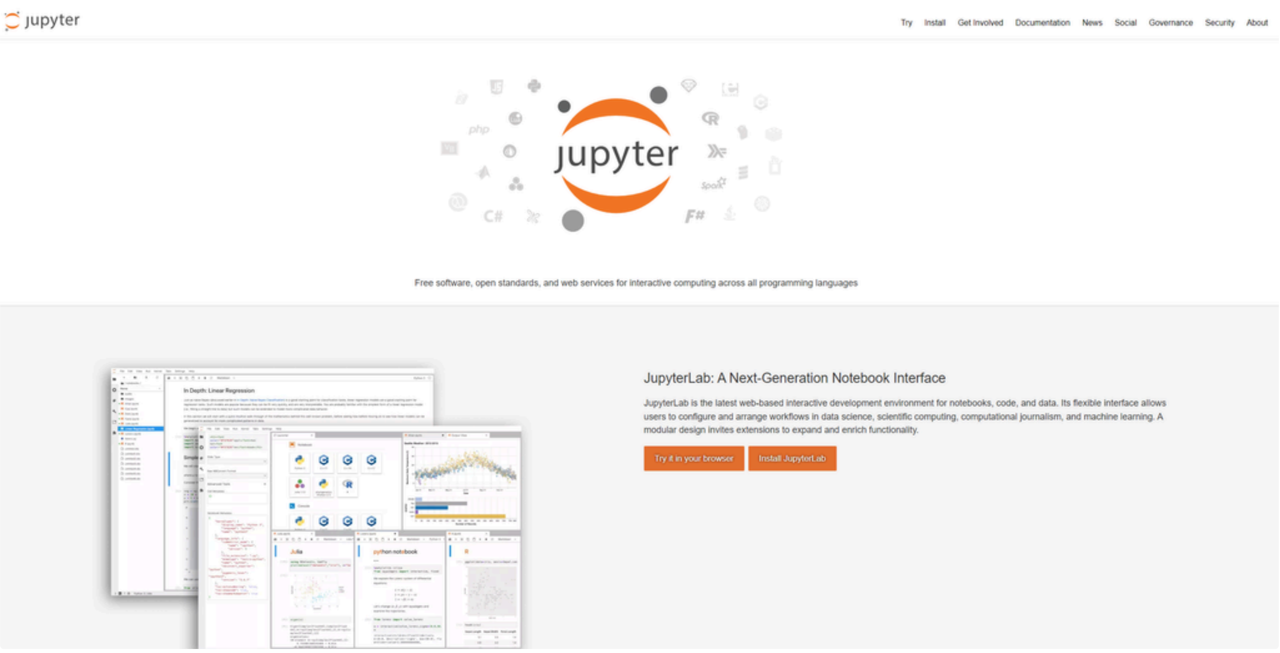
```
# via environment activation
conda activate myenvironment
conda install matplotlib

# via command line option
conda install --name myenvironment matplotlib
```

For more information on searching for and installing packages, see Managing packages.

Some packages that you install may not be compatible with each other/may require an earlier version of other packages.

Installing Jupyter Notebook/Lab

While you are more than welcome to use the command line through the conda terminal/environment to run code, it may be easier to have this together in one place. To do his we will demonstrate how to install Jupyter Notebook/Lab to write and run code.



Free software, open standards, and web services for interactive computing across all programming languages

JupyterLab: A Next-Generation Notebook Interface

JupyterLab is the latest web-based interactive development environment for notebooks, code, and data. Its flexible interface allows users to configure and arrange workflows in data science, scientific computing, computational journalism, and machine learning. A modular design invites extensions to expand and enrich functionality.

To install Jupyter. First open a new conda terminal and create and open a new environment.

```
conda create -n new_env
conda activate new_env
```

Jupyter Lab

Install JupyterLab with `pip`:

```
pip install jupyterlab
```

Note: If you install JupyterLab with conda or mamba, we recommend using the conda-forge channel.

Once installed, launch JupyterLab with:

```
jupyter lab
```

Jupyter Notebook

Install the classic Jupyter Notebook with:

```
pip install notebook
```

To run the notebook:

```
jupyter notebook
```

Voilà

Install Voilà with:

```
pip install voila
```

Once installed, launch Voilà with:

```
voila
```

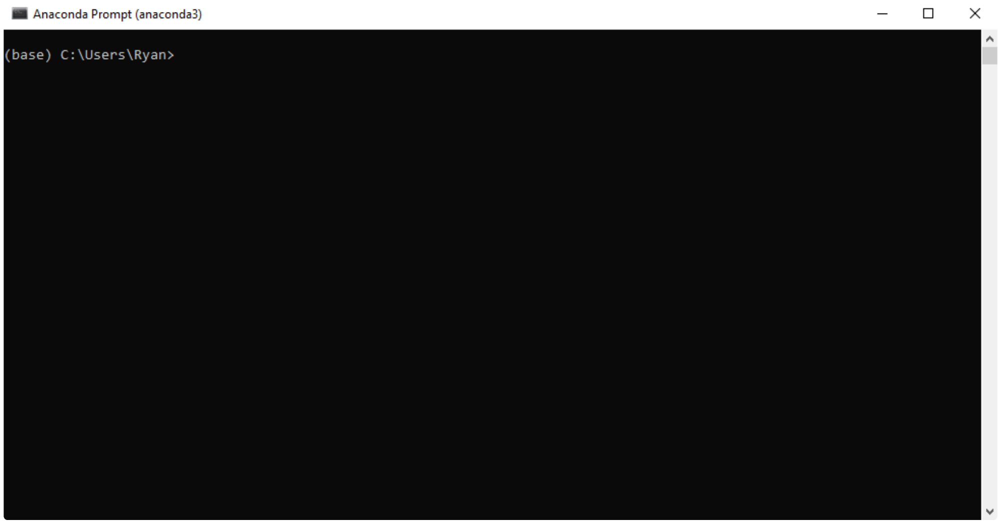
Homebrew

Homebrew is a package manager for macOS and Linux. You can use it to install Jupyter by running:

```
brew install jupyterlab
```

Running Jupyter

When you open up an Anaconda terminal you should see the following popup with **(base) C:\Users\<Username>>**



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

There are a few things to note above:

1. **base** is the environment that initially boots up.

ℹ Quick pro tip: Try not to install and do things inside your **base** environment, you will want to build environments off of this one.

2. You will need to get comfortable using a a terminal. To help we suggest looking at and downloading this trick sheet: conda-cheatsheet.pdf .

Either in this directory or another directory you want to run Jupyter lab/notebook, you can use the following commands:

```
jupyter notebook
```

or

```
jupyter lab
```