

Describe a kitchen in your own words.

 0

Nobody has responded yet.

Hang tight! Responses are coming in.

DS3500

Advanced Programming with Data

Rush Sanghrajka



Some of the things we will learn...

When you complete this course, you should be well-positioned to contribute to projects in high-tech enterprises. While the focus is data science and python, the general principles of software design, testing, and validation are applicable across the software industry.

Foundations & Data Handling

Visualizations & Interactivity

Data collection & Storage

AI-Augmented Development

Performance and Testing

How does this course work?

50 possible points

Homeworks

30 possible points

**Practical
Exams**

**Final
Project**

40 points

+ up to 5 points max from
in-class polls



Setting up your Python Dev Environment

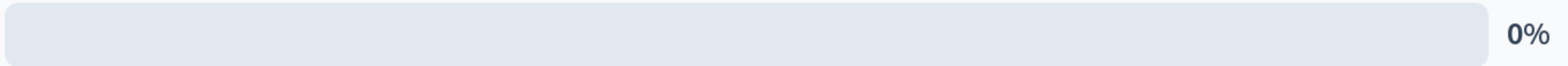
Anaconda: A python distribution and environment manager (or “package manager”) that comes pre-installed with a base environment containing hundreds of packages.

An **IDE** (Integrated Development Environment): For creating projects and writing, running, and testing code. We’ll be mostly using **Jetbrains PyCharm** in class, though I may sometimes use something else like Jupyter or Spyder. PyCharm readily integrates with Anaconda environments.

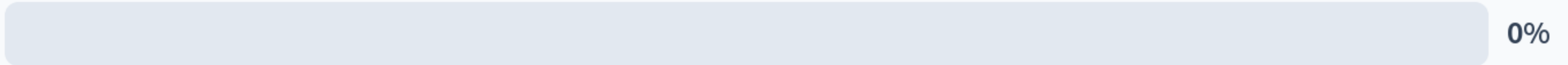
Git: A software control system for working together on shared development projects. PyCharm integrates with Git.

Do you like using Jupyter notebooks?

Love them!



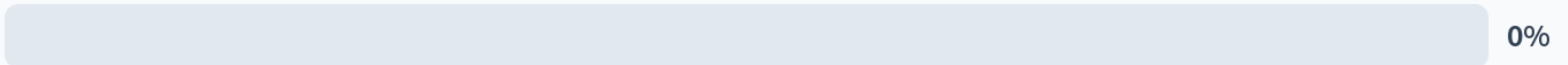
They're useful, but have some drawbacks.



I prefer other tools.

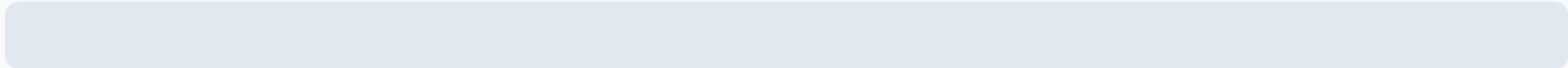


Never used them.



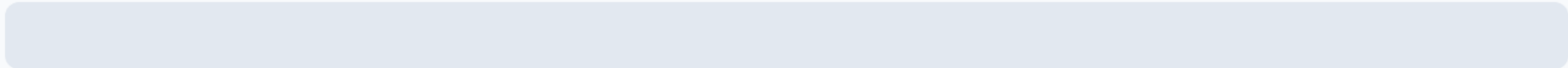
Which operating system do you primarily use?

MacOS



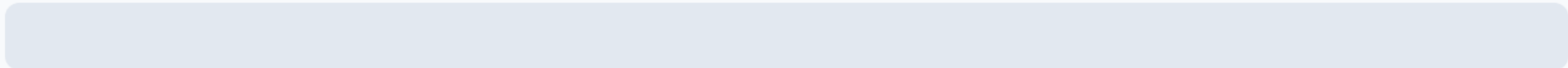
0%

Windows



0%

Linux



0%

Command Line Basics

You will need to use the command line for a lot of things this semester! Let's familiarize ourselves with some commands to start.

```
# choose a directory
```

```
cd <name of folder>
```

```
# choose the home directory
```

```
cd ~
```

```
# list all contents
```

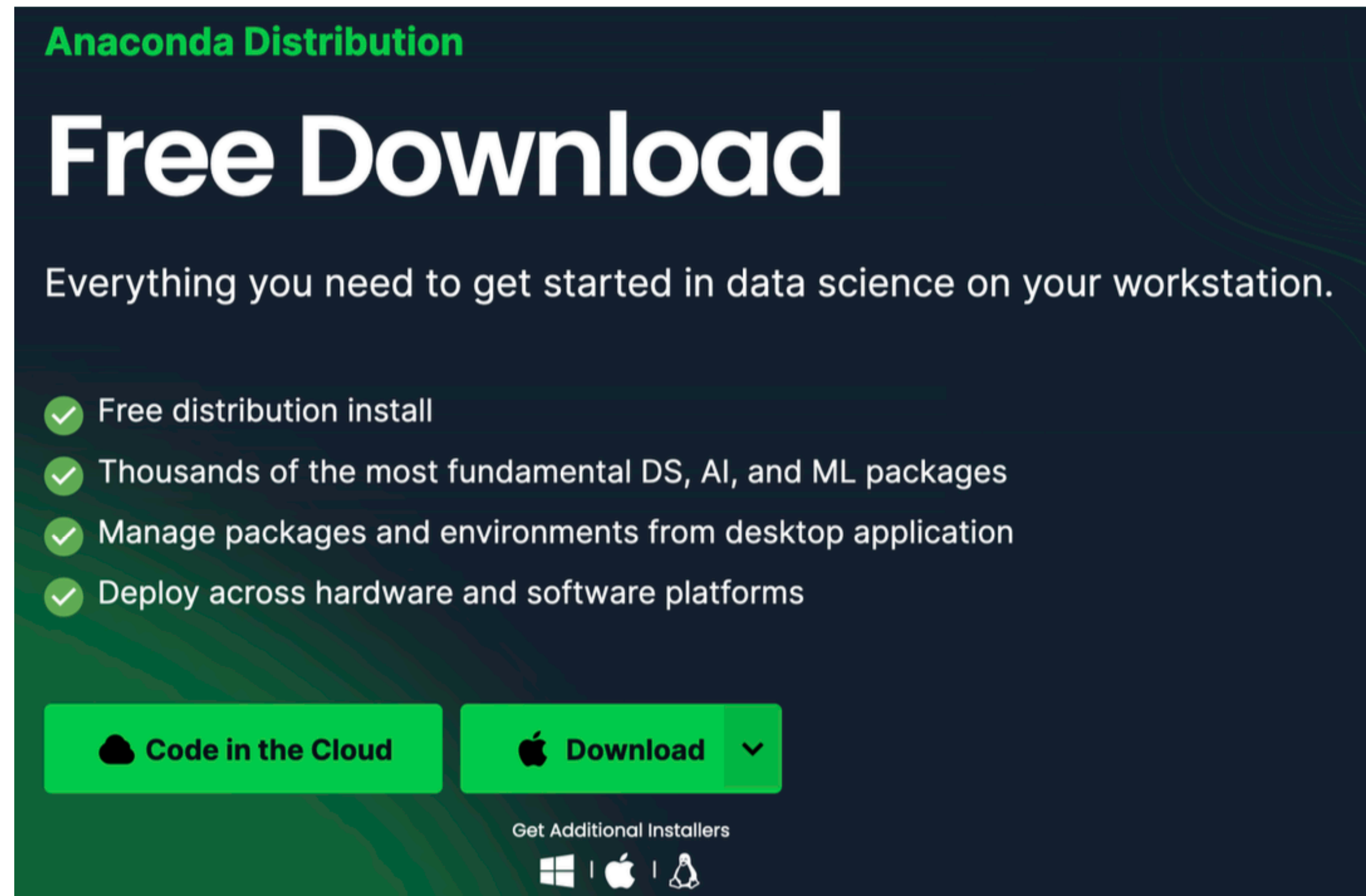
```
ls
```

```
# create a file or folder
```

```
mkdir <name of file/folder>
```


Installing Anaconda

<https://www.anaconda.com/download#downloads>





Anaconda Distribution




Free Download

Everything you need to get started in data science on your workstation.

- ✓ Free distribution install
- ✓ Thousands of the most fundamental DS, AI, and ML packages
- ✓ Manage packages and environments from desktop application
- ✓ Deploy across hardware and software platforms

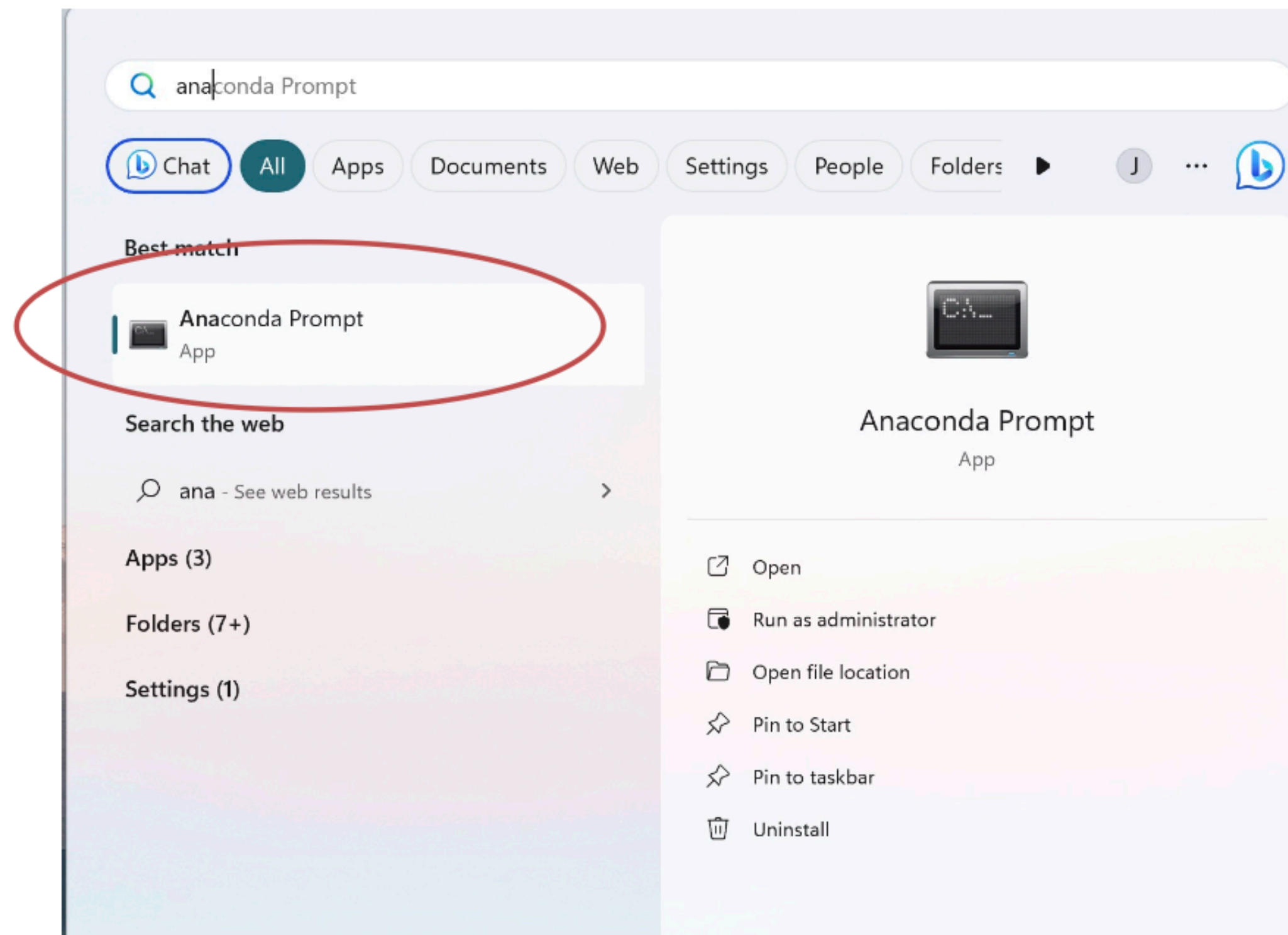
 **Code in the Cloud**  **Download** ▼

Get Additional Installers

 |  | 



Windows users— running conda commands



To run “conda” commands on windows, use the Anaconda Prompt. (You might want to pin this application to your Task Bar.)

It basically opens a command terminal with the base anaconda environment activated.

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Creating environments

Create a “ds” environment.

We will use the “ds” environment, which only has a few libraries— the base environment has a lot of libraries that we don’t need.

```
conda create --name ds
conda activate ds
conda install matplotlib
conda install pandas
conda install ipython

Conda env list
```


PyCharm (JetBrains)

<https://www.jetbrains.com/pycharm/>

A promotional banner for PyCharm. The background is dark with a large, stylized, multi-colored rose (yellow, green, blue) on the right side. A black square with the white letters 'PC' and a horizontal line is positioned over the rose. On the left, the text 'PyCharm' is in white, followed by 'The only Python IDE you need' in a larger white font. Below this, a smaller white font reads 'Built for web, data, and AI/ML professionals. Supercharged with an AI-enhanced IDE experience.' At the bottom left, there is a teal button with the word 'Download' in white.

PyCharm

**The only Python IDE
you need**

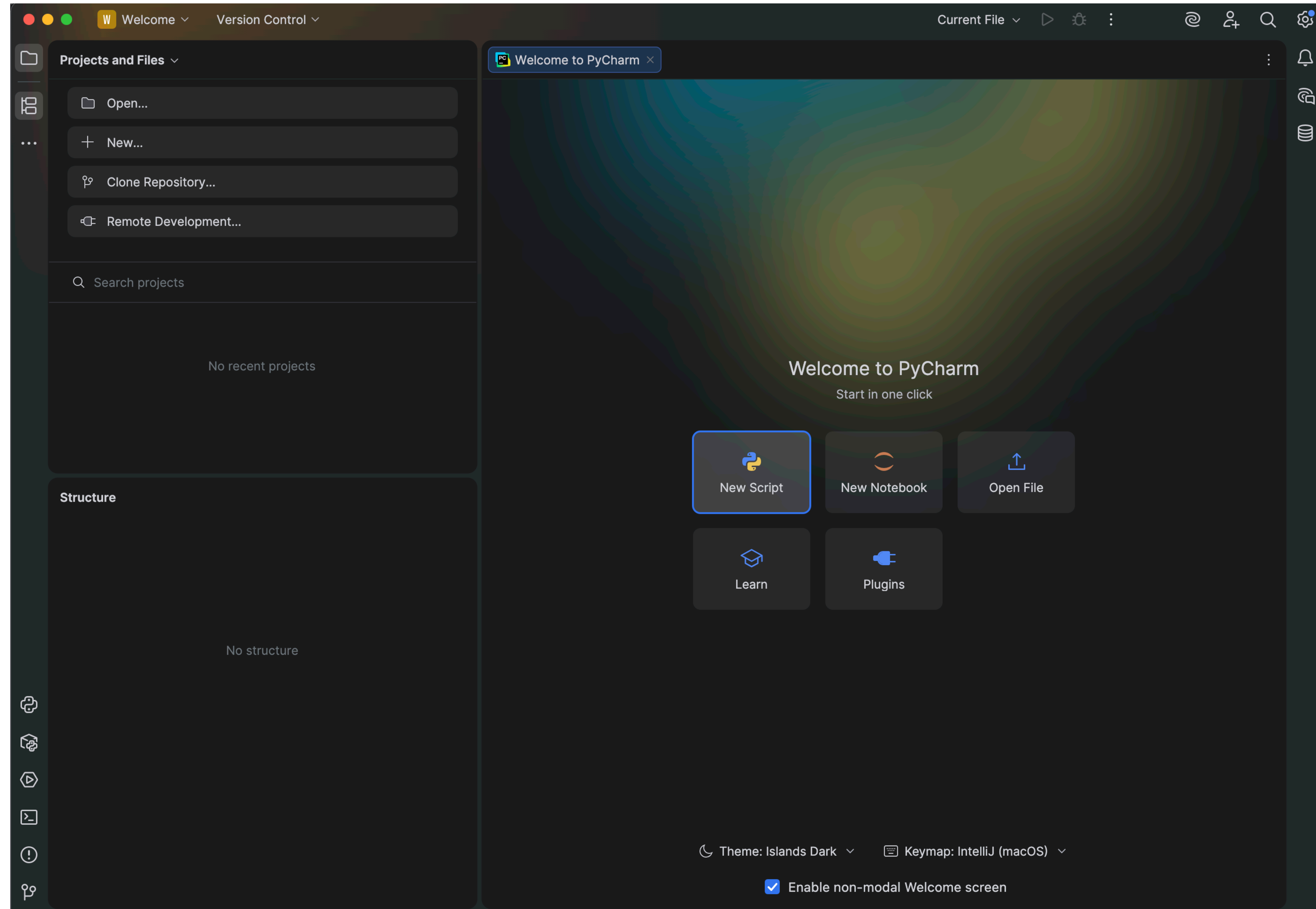
Built for web, data, and AI/ML professionals. Supercharged
with an AI-enhanced IDE experience.

Download



Next up, go into settings and find the interpreter settings.

You should then link your PyCharm interpreter to the ds environment created with Anaconda.



Coming Up

Tomorrow — Setting up Git, HW1

TODO: please request a Khoury Account if you don't already have one:
my.khoury.northeastern.edu

Next week: Intro to Pandas and Data Cleaning

