

Tools

Goals

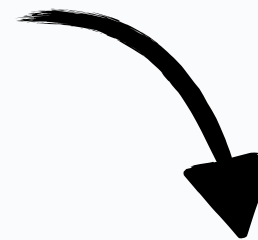
- Download the appropriate tools
- Basic understanding of the role of each tool

Goals

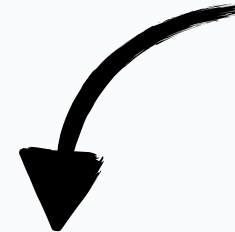
- Overview of Anaconda, JupyterLab, & GitHub
- Example workflow that combines all three
- (Time permitting) Get you all 100% set up

Everything Downloaded?

Anaconda



**GitHub
Desktop**

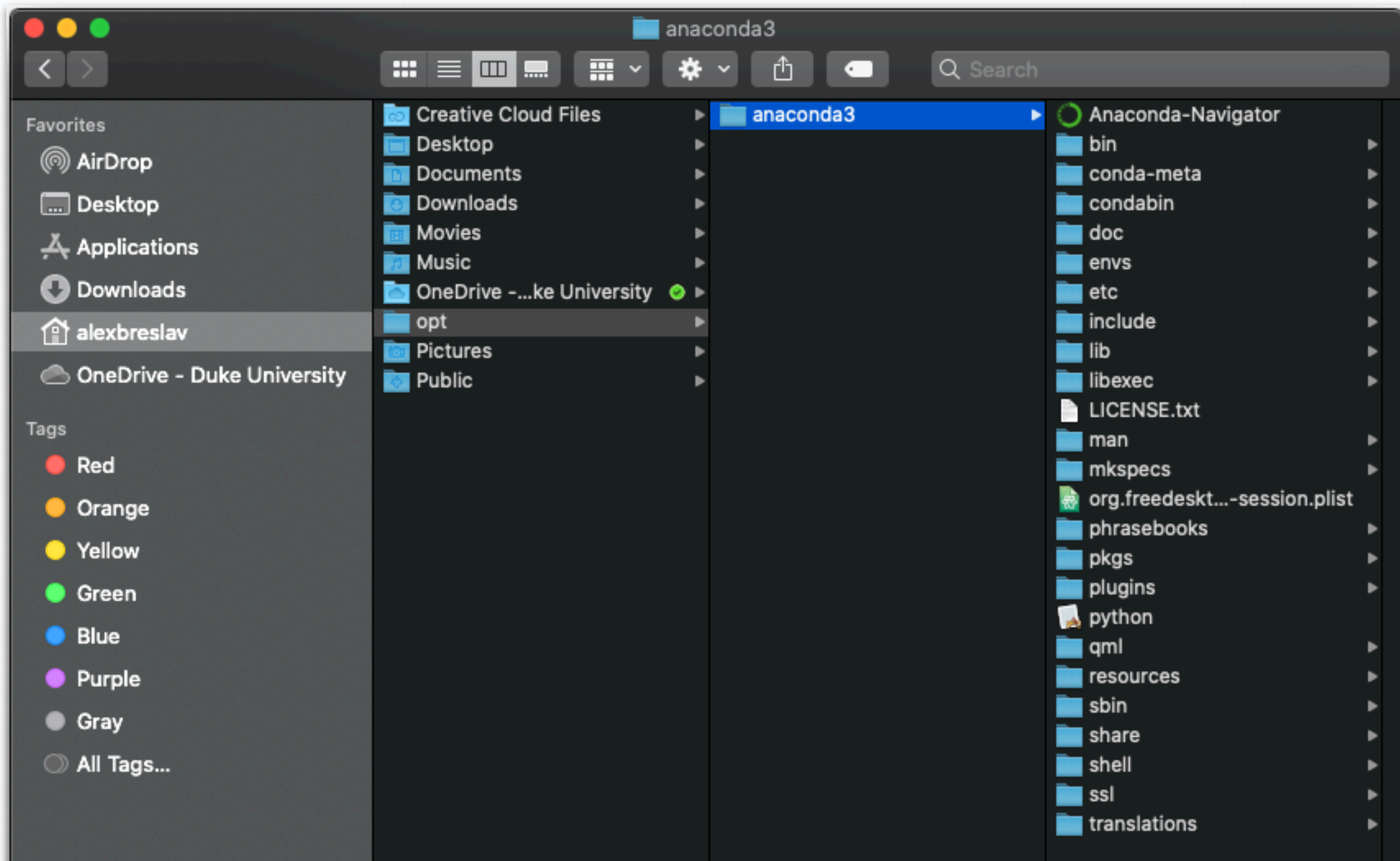


Anaconda

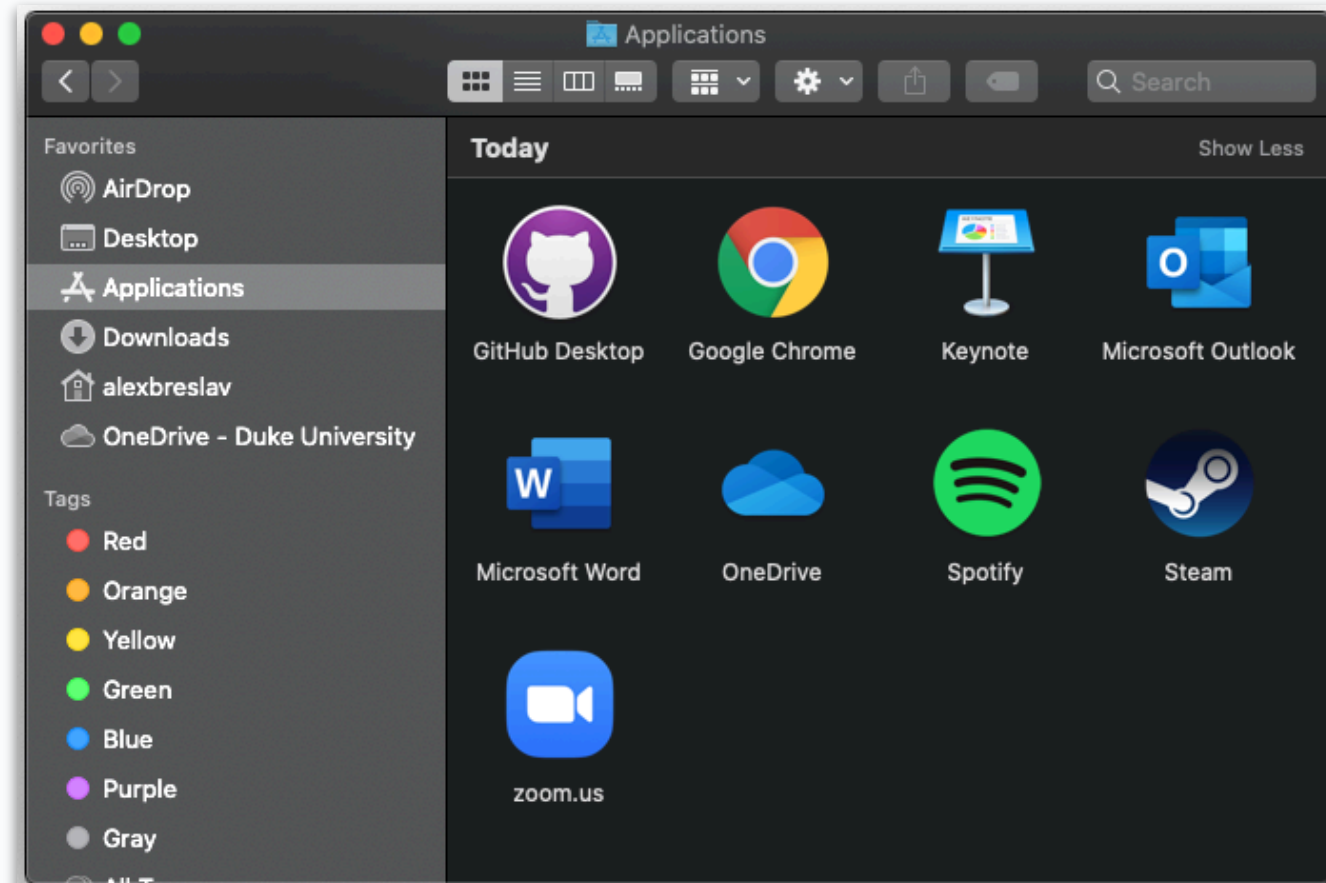
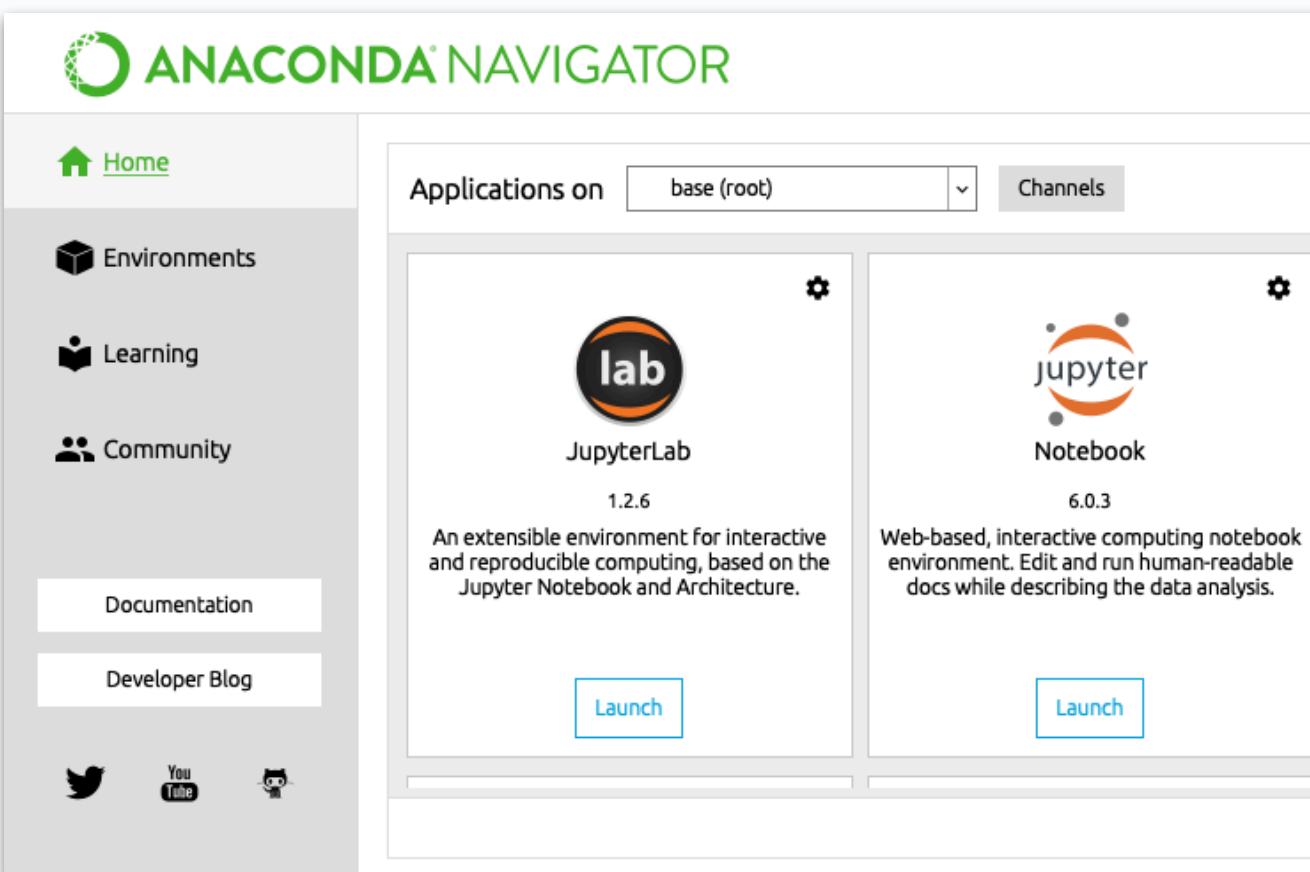
Create a home for coding on your computer

Anaconda lives here!

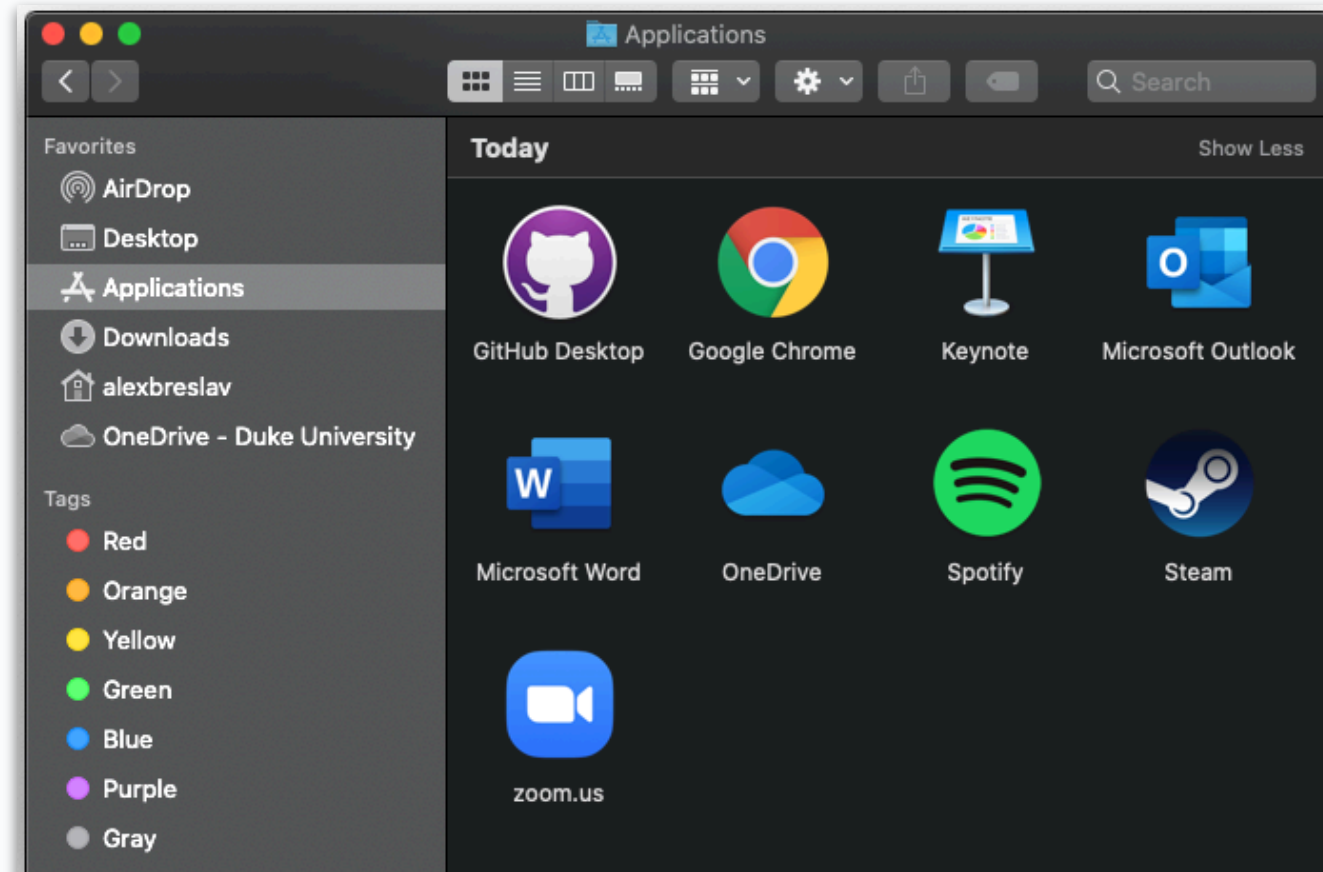
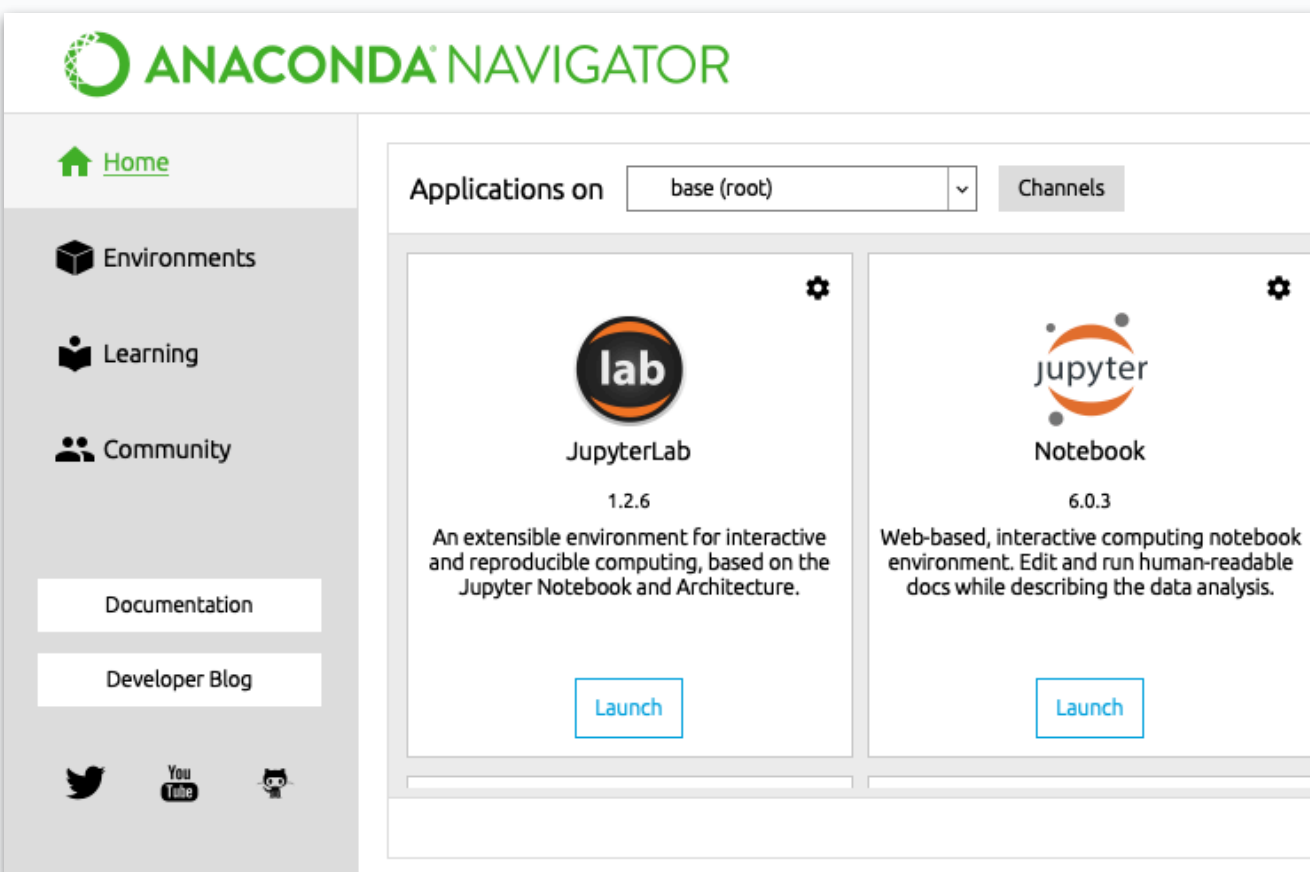
When you download packages or create environments, they live here too.



Opening Anaconda Navigator is like opening the Applications tab on your finder



To start coding, open JupyterLab from our Anaconda Navigator



JupyterLab

Interact with data using code

JupyterLab is like Excel:

It is an application where we can interact with our data.

JupyterLab and Excel are different:

- In Excel, we make changes to our data by hand.
- In JupyterLab, we are writing Python code so that a computer makes changes to the data for us.

**Navigate through
our files**

Write code

The screenshot shows a Jupyter Notebook interface with a file browser on the left and a code editor on the right. The file browser displays a directory structure under '/ OneDrive - Duke University /' with folders like '1_research', '2_presentations', etc. The code editor shows two cells. The first cell contains Python code to read an HDF5 file and filter data. The second cell displays a table of behavioral data for a single subject across 20 trials. Below the table, a text box provides context about the data.

File browser contents:

Name	Last Modified
1_research	a day ago
2_presentations	43 minutes ago
3_applications	2 days ago
4_coding_projects	a day ago
5_mendeley_papers	2 days ago
6_boost_tutoring	2 days ago
7_personal	2 days ago
Icon	2 days ago

Code cell 1:

```
[4]: behavior = pd.read_hdf(os.path.join(behavioral_data_dir, 'behavior.h5'), 'choices_and_rts')
behavior = behavior[behavior.block_name != 'practice'].reset_index(drop=True)
behavior.iloc[:20,:10]
```

Code cell 2:

	subject	trial	block_name	block_index	step1_a_pos_left	step1_choose_a	step1_choose_left	step2_a_pos_left	step2_choose_a	step2_choose_left
0	6661	1	money	2	0	1	0	1	0	0
1	6661	2	money	2	1	1	1	0	1	0
2	6661	3	money	2	0	1	0	0	1	0
3	6661	4	money	2	0	1	0	1	1	1
4	6661	5	money	2	0	1	0	0	1	0
5	6661	6	money	2	0	1	0	1	1	1
6	6661	7	money	2	1	1	1	1	0	0
7	6661	8	money	2	0	1	0	0	1	0
8	6661	9	money	2	1	1	1	1	1	1
9	6661	10	money	2	1	1	1	1	1	1
10	6661	11	money	2	0	1	0	1	1	1
11	6661	12	money	2	1	1	1	1	1	1
12	6661	13	money	2	1	1	1	0	1	0
13	6661	14	money	2	1	1	1	0	1	0
14	6661	15	money	2	1	1	1	0	1	0
15	6661	16	money	2	0	1	0	1	1	1
16	6661	17	money	2	0	1	0	0	1	0
17	6661	18	money	2	1	1	1	0	1	0
18	6661	19	money	2	0	1	0	1	0	0
19	6661	20	money	2	0	1	0	1	1	1

This is one subject's data, from the money block. The table shows which slot machine they chose in step one and step two for the first 20 trials.

Check out our data

**Add notes about
what we're doing!**

GitHub

Store your code in the cloud

Keep track of versions

Code as a team



THRIVING-Team

Repositories 3

Packages

People 5

Teams

Projects

Settings

Find a repository...

Type: All

Customize pins

New

clean

raw data is messy; let's clean it up so that we (and others) can analyze it

0 0 0 0 Updated 14 days ago

describe

let's describe the data so that we can get a basic understanding of what's what

0 0 0 0 Updated 14 days ago

visualize

data are best summarized as images; let's visualize the data so that others can easily grasp the gist of the data

0 0 0 0 Updated 14 days ago

People

5 >

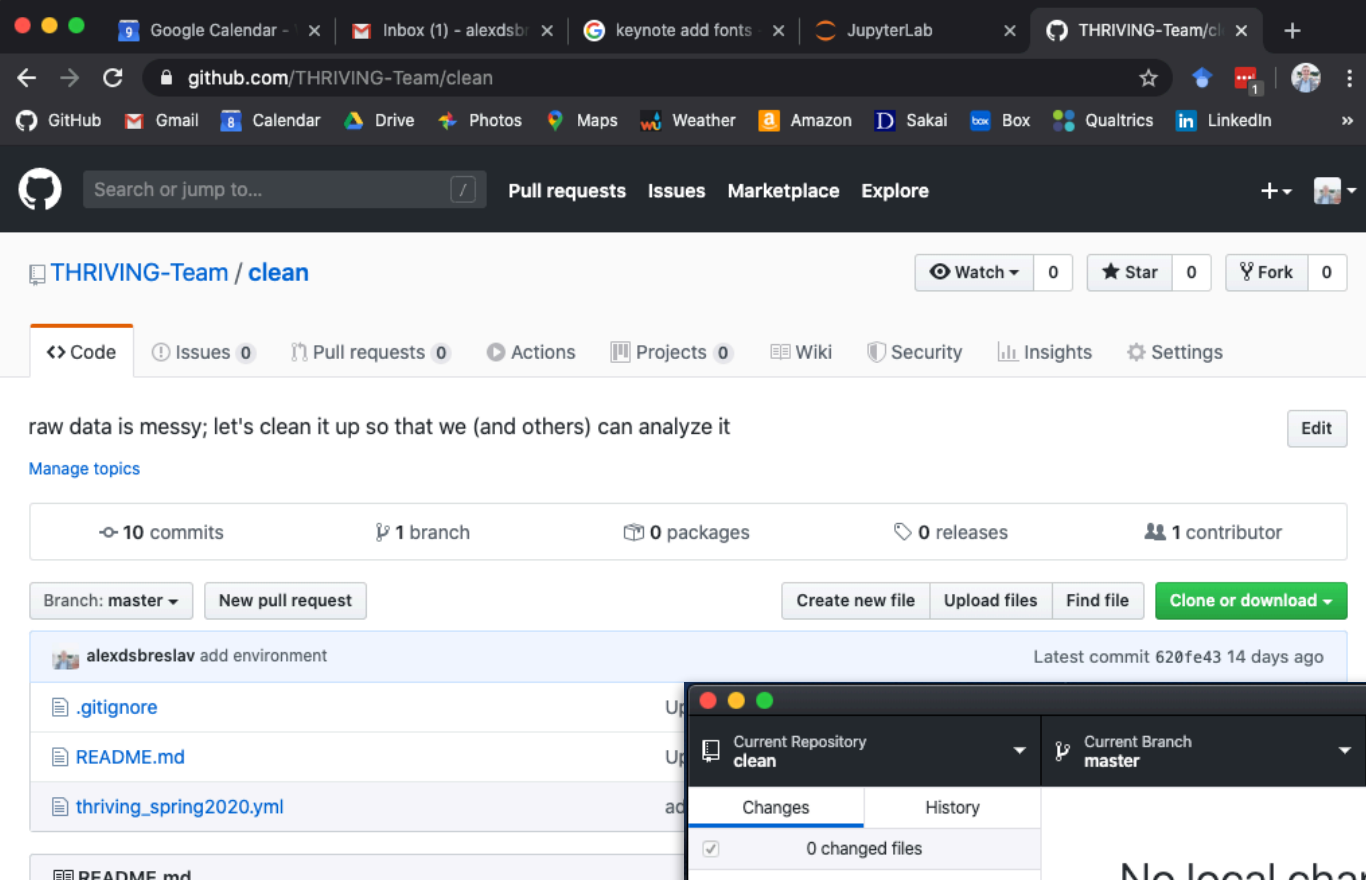


Invite your teammates...

Invite

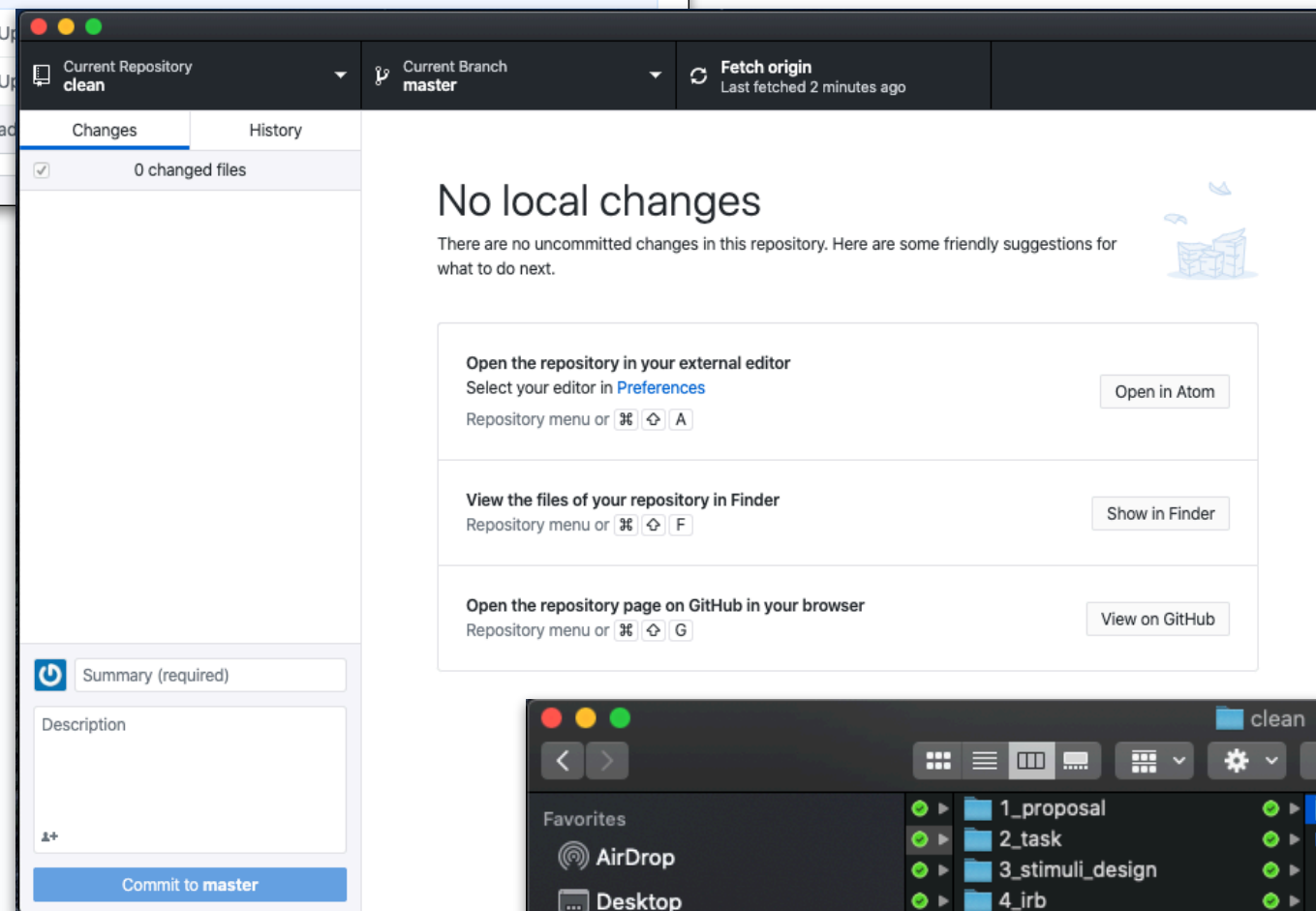
GitHub Desktop

Sync the GitHub cloud to your computer

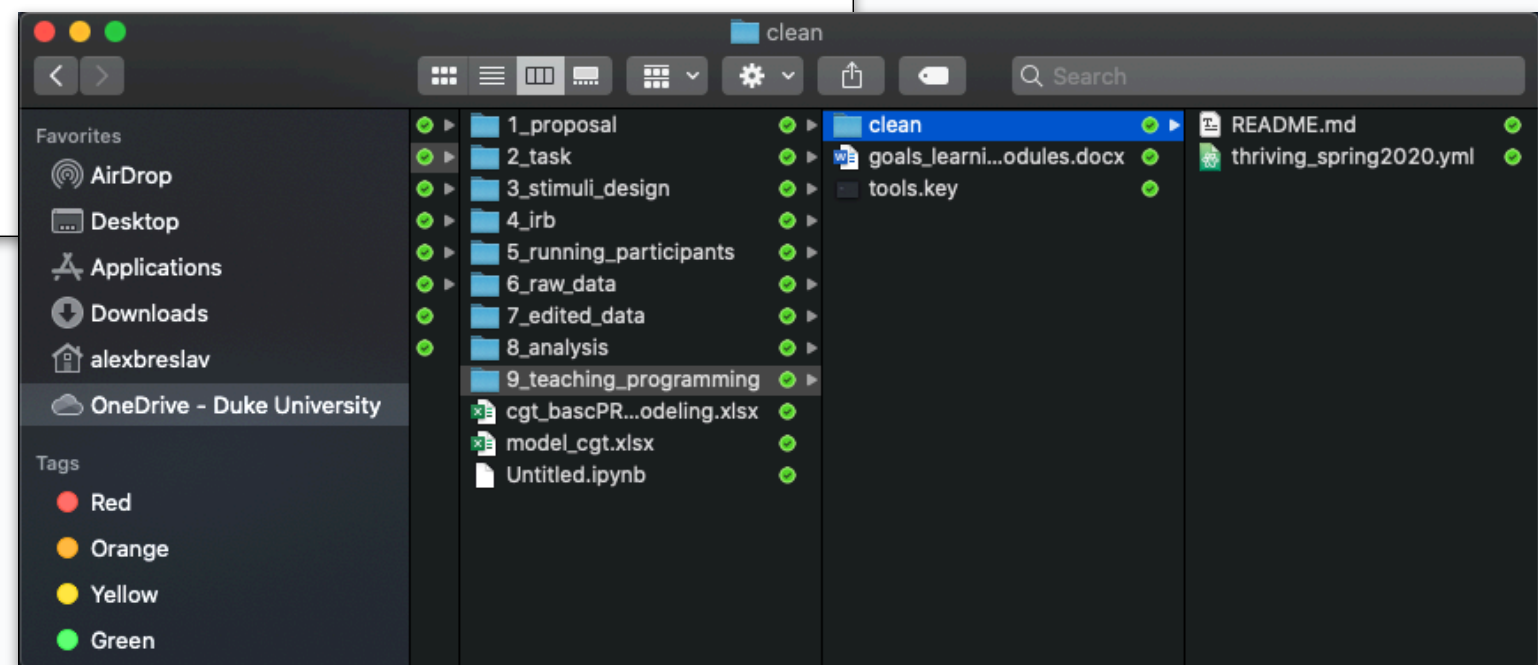


GitHub (Cloud)

GitHub Desktop (Compare cloud to your local drive)



Your Local Drive



Workflow

- Open Anaconda
- Open JupyterLab
- Go to the repo I am working on
- Code some stuff!
- Save the changes to my computer
- Push the changes to the cloud

Get 100% Set Up

- Open Anaconda
- Launch JupyterLab (fix any bugs)
- Get JupyterLab set up to handle multiple environments
 - Tell JupyterLab you have multiple coding environments in Anaconda
 - Set up the coding environment we will use for our analyses