NAIRR AI Unlocked Workshop 2025

Track 2 – Intermediate to Advance

**Deep Learning vs. Machine Learning Session**

Paola A. Buitrago

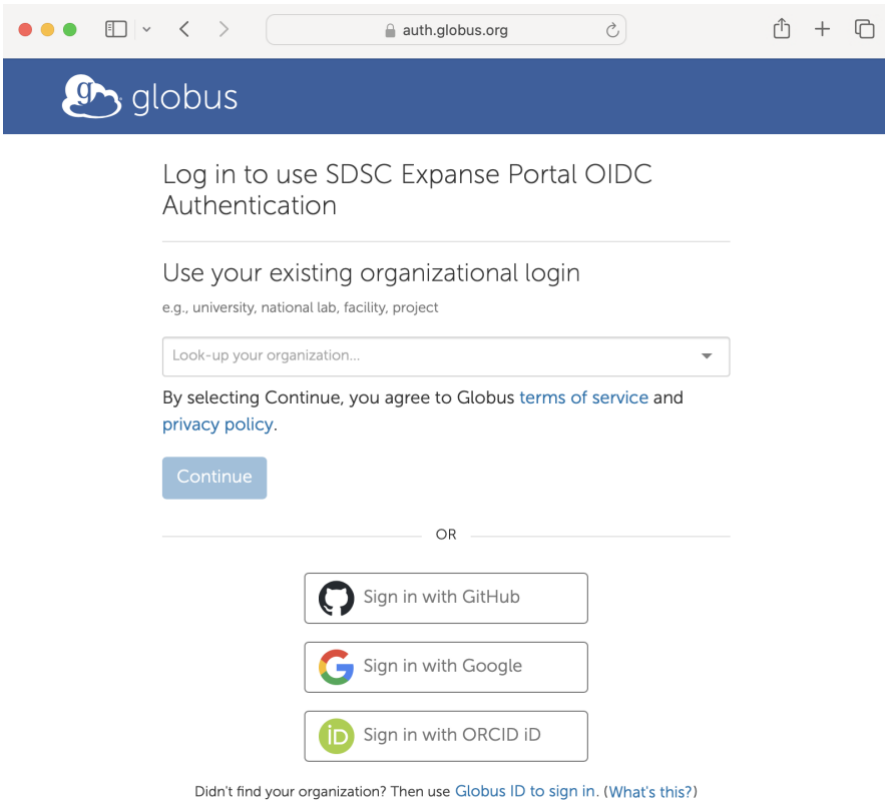
# Getting the Session Jupyter Notebook Running on Expanse

Key URLS

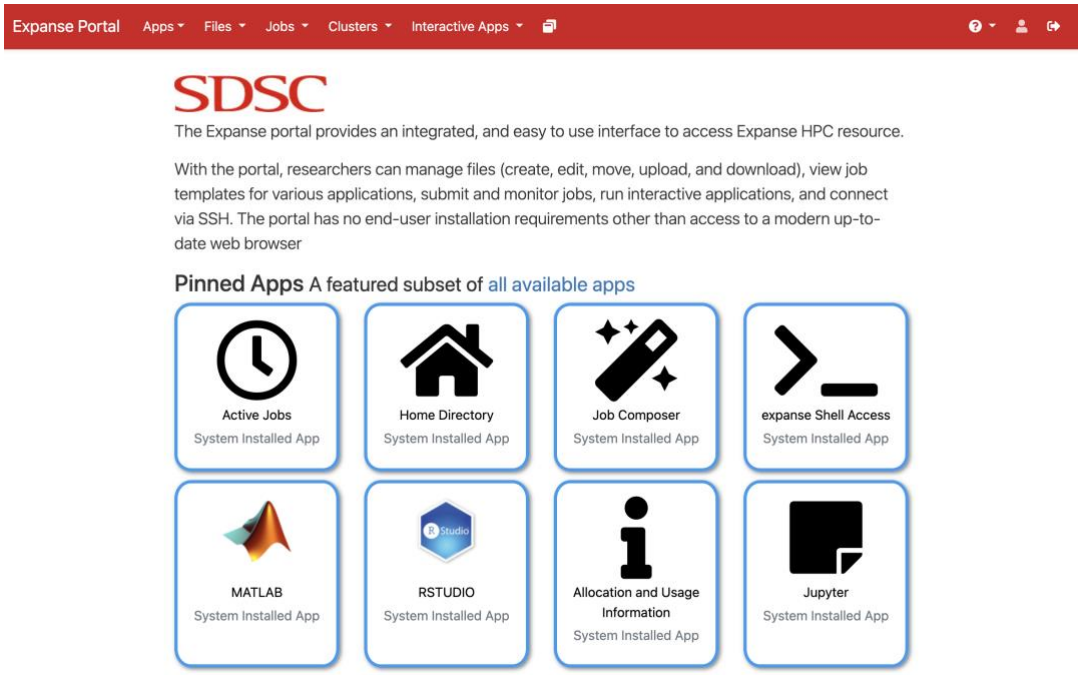
- Expanse Open On Demand portal: https://portal.expanse.sdsc.edu/
- Workshop Github repository: https://github.com/access-ci-org/AI-Unlocked-Workshop-2025
- Workshop Shared folder: Public attendees main folder

**Step 1 – Get access to the Expanse Open OnDemand portal**

Get access to the Expanse portal by clicking here. You would need to log in first. Select your organization and proceed to log in.



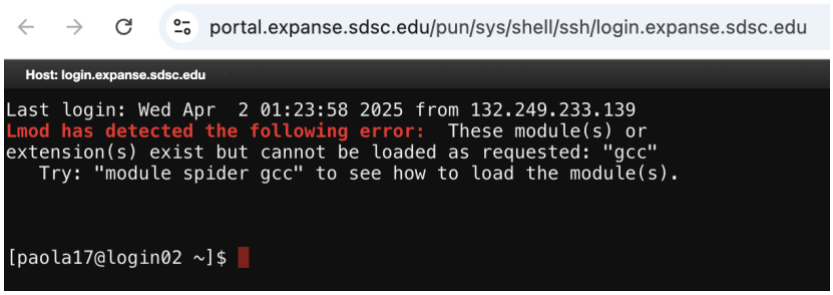
Once you successfully log in, you should get to the “Expanse portal dashboard”.




**Step 2 – Get an Expanse copy of the workshop Github repository**

Let’s clone the AI Unlocked 2025 workshop github repository. In the “Expanse portal dashboard”, click on the “expanse Shell Access” app icon.

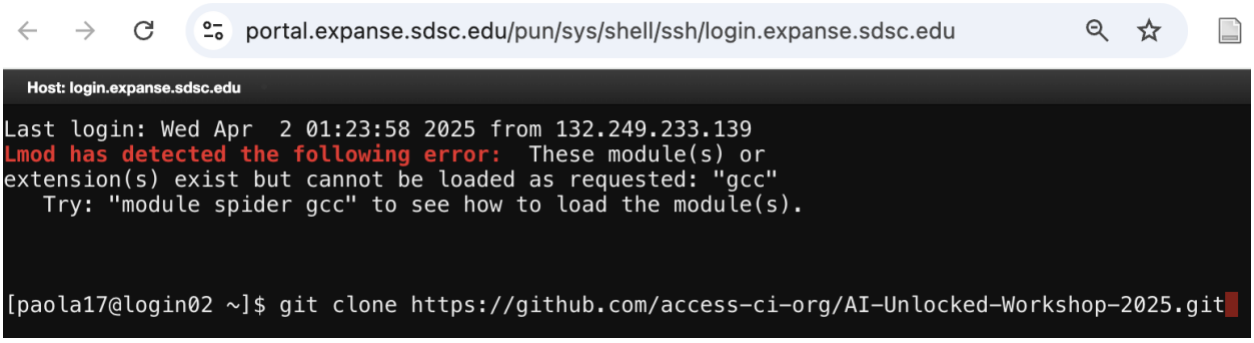

A new tab that looks like the image below will pop up. Ignore warning or error messages at this point.



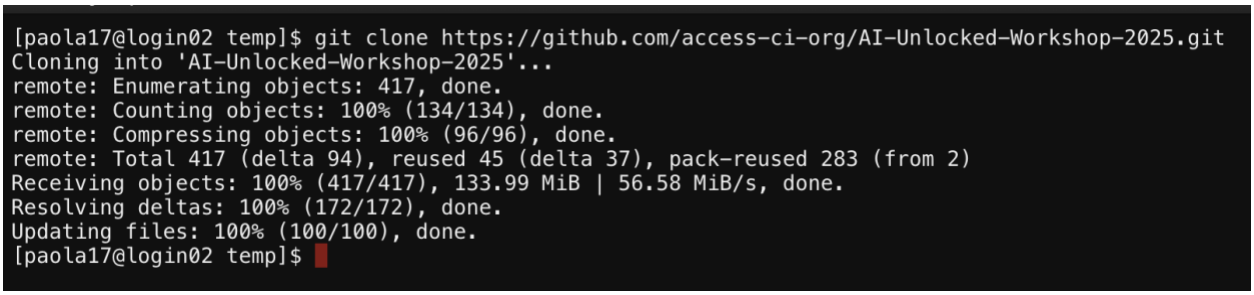

Type (or copy paste) the following command to clone the Github repository with all the workshop materials.

```
git clone https://github.com/access-ci-org/AI-Unlocked-Workshop-2025.git
```

It should look like this before you hit the “return” key.




Press the return key. You should get confirmation that the repo has been successfully cloned.

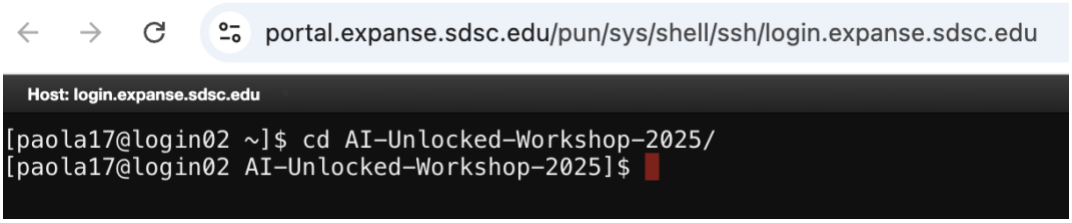


Good job! In case you had cloned the repo before on Expanse and want to confirm you have the latest version available you can A) go to the repo folder and B) update your Expanse copy of the repo.

A) Go to the repo folder

Type the following command in your shell and press the “return” key.

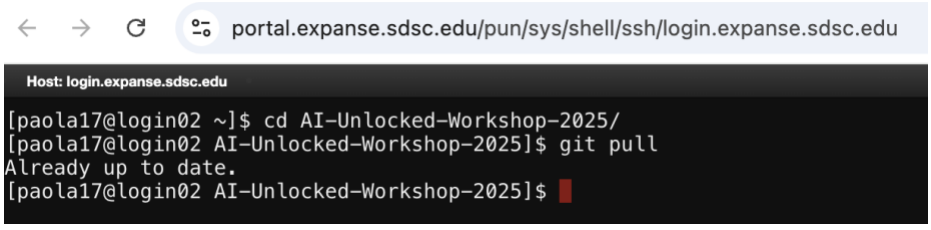
```
cd AI-Unlocked-Workshop-2025/
```




B) Update your Expanse copy of the repo.

Type the following command in your shell and press the “return” key.

```
git pull
```

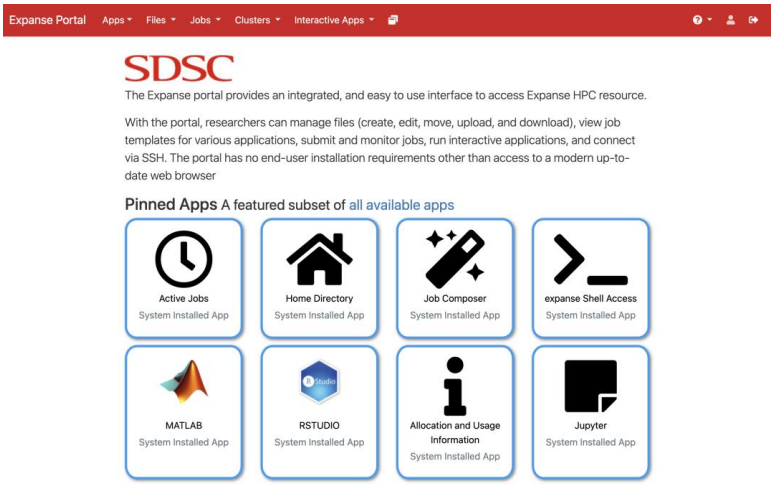



You might get a confirmation that your Expanse copy of repo is up to date or, if it is not up to date, this command will pull the latest version of the workshop remote repo and describe the changes.

You now have the latest version of the repo ready to be used!

**Step 3 - Get a Jupyter Lab or a Notebook instance running on Expanse!**

Go back to https://portal.expanse.sdsc.edu/. You can click on this URL or open the appropriate tab.




Once, there, click on the “Jupyter” app box.


A new tab will pop up with a form that looks like the following:

NAIRR Pilot National Artificial Intelligence Research Resource Pilot

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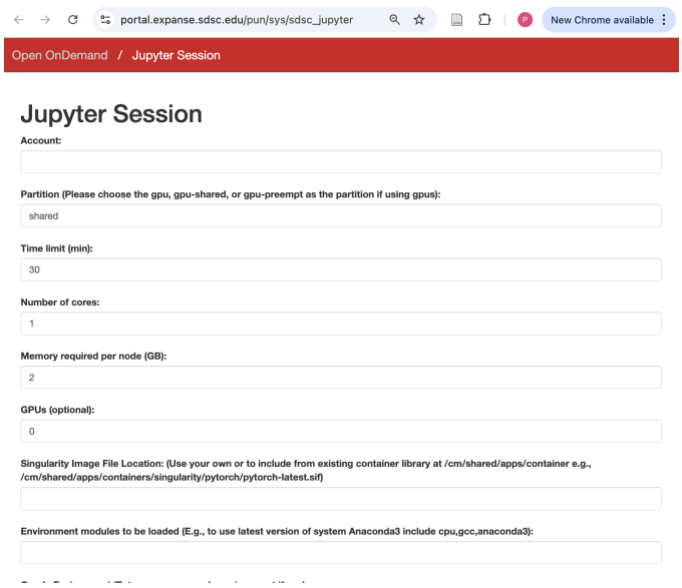


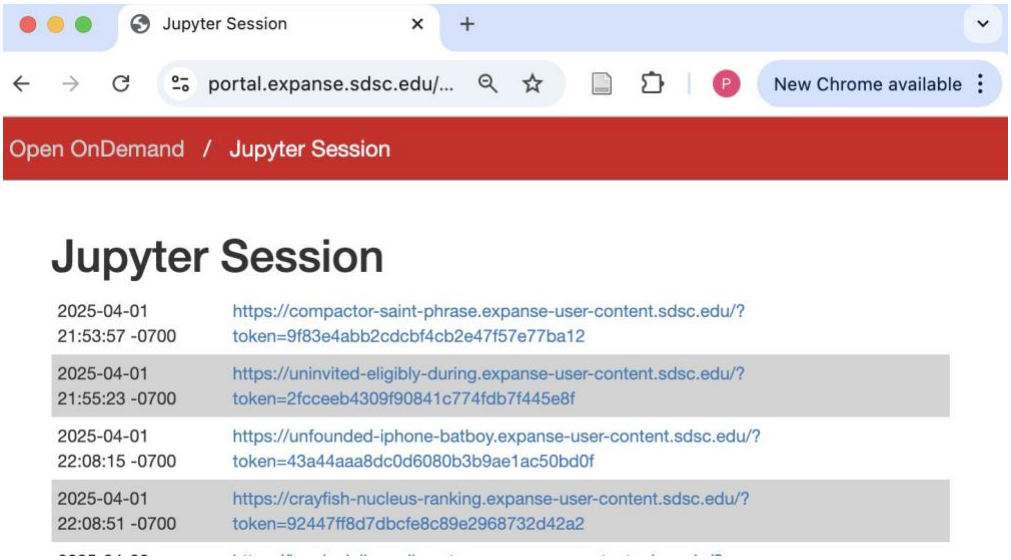

Use the following values to fill the form and press “submit” button at the end of the page.

| Field | Value |
|---|---|
| Account: | ukl119 (or TG-CIS250186) |
| Partition (Please choose the gpu, gpu-shared, or gpu-preempt as the partition if using gpus): | gpu-shared |
| Time limit (min): | 60 |
| Number of cores: | 1 |
| Memory required per node (GB): | 4 |
| GPUs (optional): | 1 |
| Singularity Image File Location: (Use your own or to include from existing container library at /cm/shared/apps/container e.g., /cm/shared/apps/containers/singularity/pytorch/pytorch-latest.sif) | /cm/shared/apps/containers/singularity/tensorflow/tensorflow-latest.sif |
| Environment modules to be loaded (E.g., to use latest version of system Anaconda3 include cpu,gcc,anaconda3): | singularitypro |
| Conda Environment (Enter your own conda environment if any): | *Leave blank* |
| Conda Init (Provide path to conda initialization scripts) | *Leave blank* |

| | |
|---|---|
| Conda Yaml (Upload a yaml file to build the conda environment at runtime) | *Leave blank* |
| Turn on use of mamba for speeding up conda-yml installs | *Leave unchecked* |
| Enable use of new caching mechanism that will store and reuse conda-yml created environments using conda-pack !???? | *Leave unchecked* |
| Reservation: | nairrworkshop *<- (encouraged but optional!)* |
| QoS: | gpu-shared-eot |
| Working directory: | *Leave blank* |
| Type: | JupyterLab |

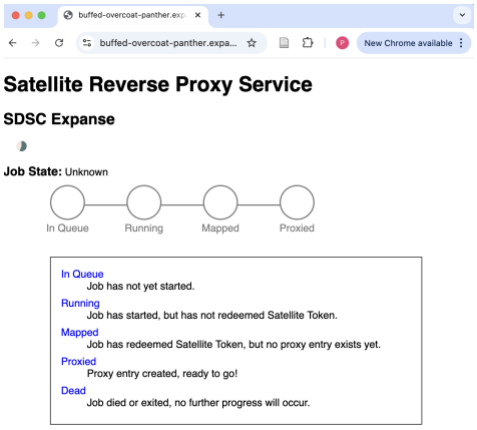
After providing this info in the form, hit “submit”.


You should get a list of recent Jupyter sessions.



The last one entry in the list, would correspond to the one you just requested. You can click on the URL on the right to get to the session.

It may take some time (minutes if Expanse is not overloaded) to get the session going. When clicking of the session URL, if the session is still in the process of getting resources, you might see a screen like the following one.




Eventually, the session will be allocated resource and the screen will automatically change to the following. You are now ready to navigate to the session subfolder and get access to the Jupyter notebook we will be using.

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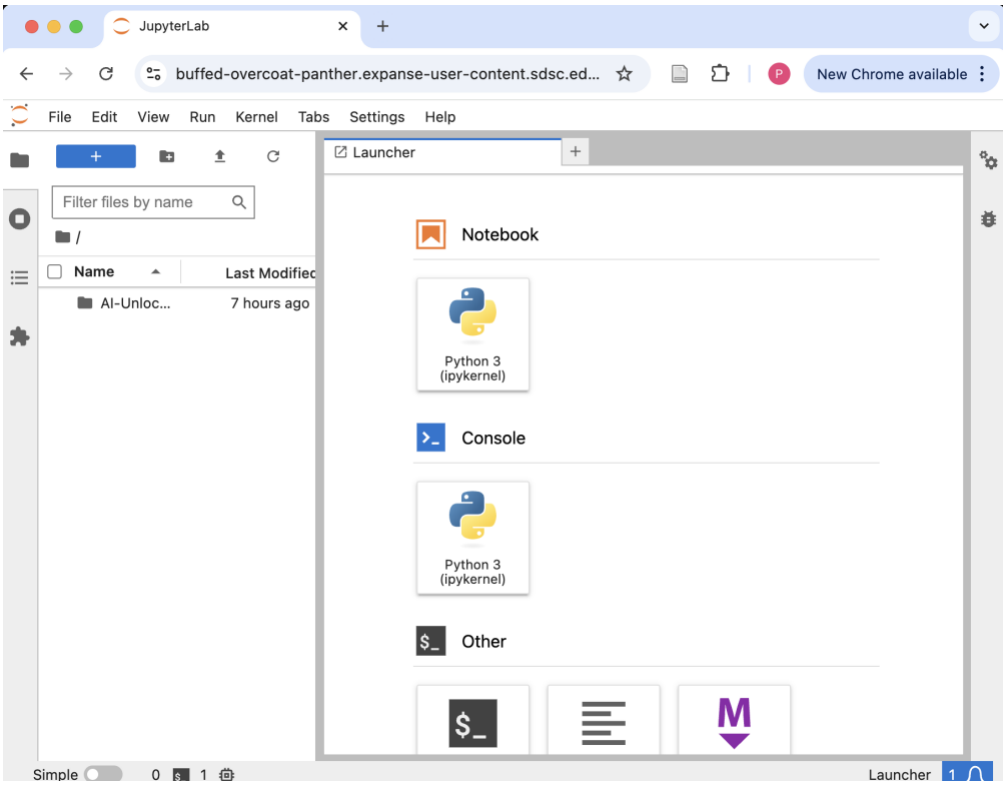
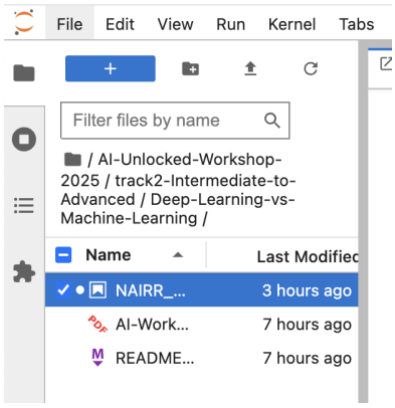



By clicking in the corresponding folders on the file browser on the upper left of the screen, navigate to:

> AI-Unlocked-Workshop-2025 > track2-Intermediate-to-Advanced > Deep-Learning-vs-Machine-Learning




Once you reach the “Deep-Learning-vs-Machine-Learning” folder, double click on the “NAIRR_AI_Unlocked_DL_vs_ML_model_comparison_training .ipynb” file.

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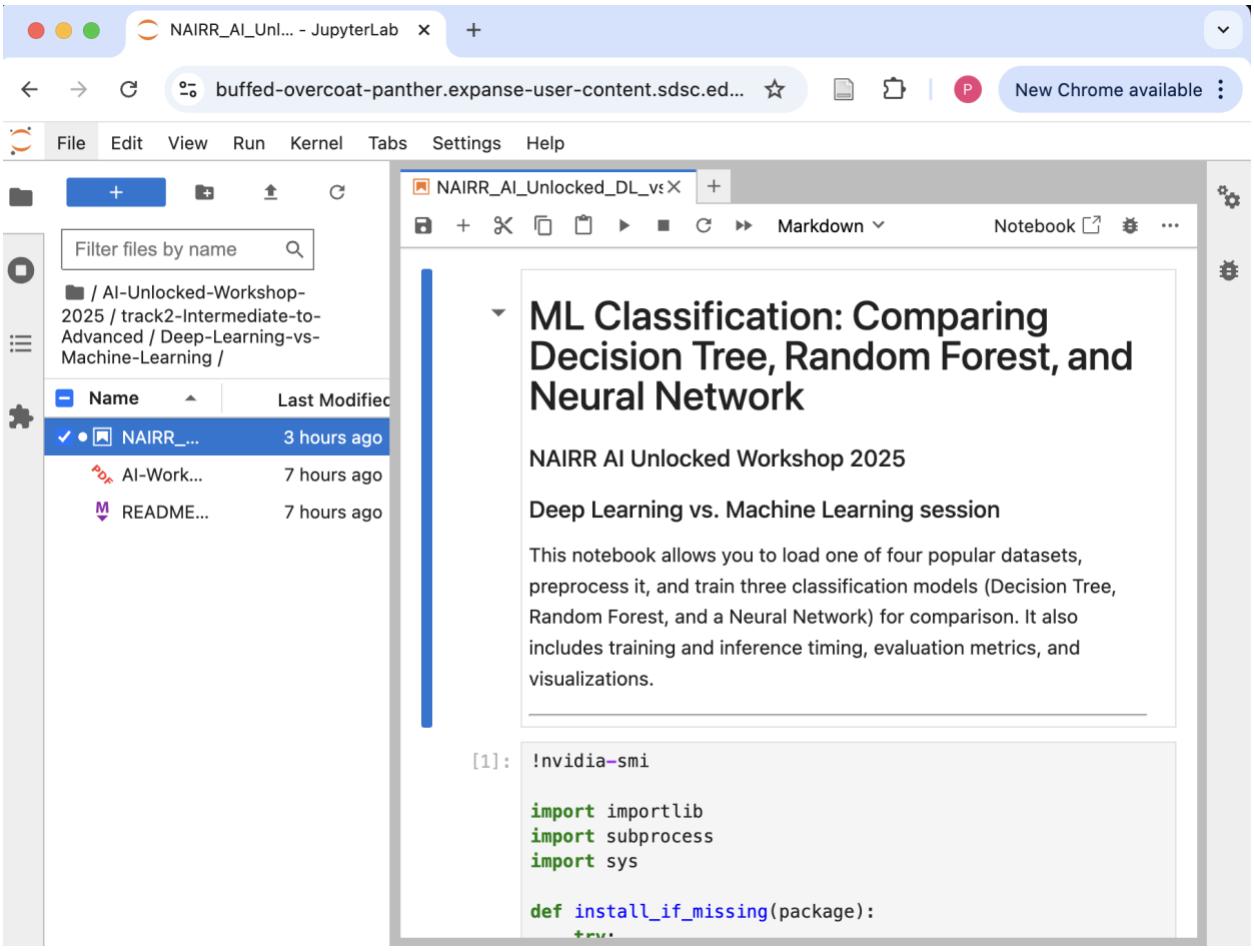


Congratulations! We have now:

- Gained access to the Expanse Open OnDemand instance!
- Cloned or pulled the latest version of the workshop repository!
- Created a JupyterLab instance on Expanse!
- Gotten access to the Jupyter notebook of the session!

**Great job!**