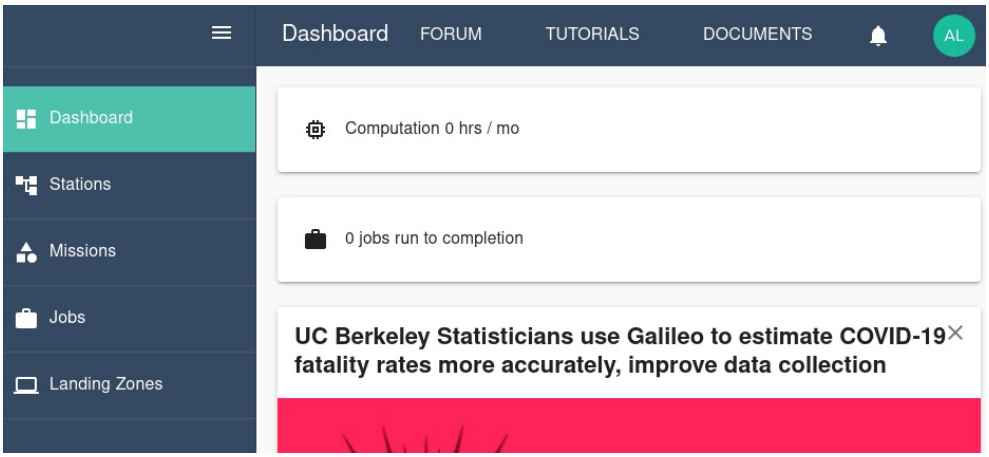
Tutorial: Running Python in Galileo

Gettting started with Python in Galileo

To get started with Galileo, log into your account using Firefox or Chrome.

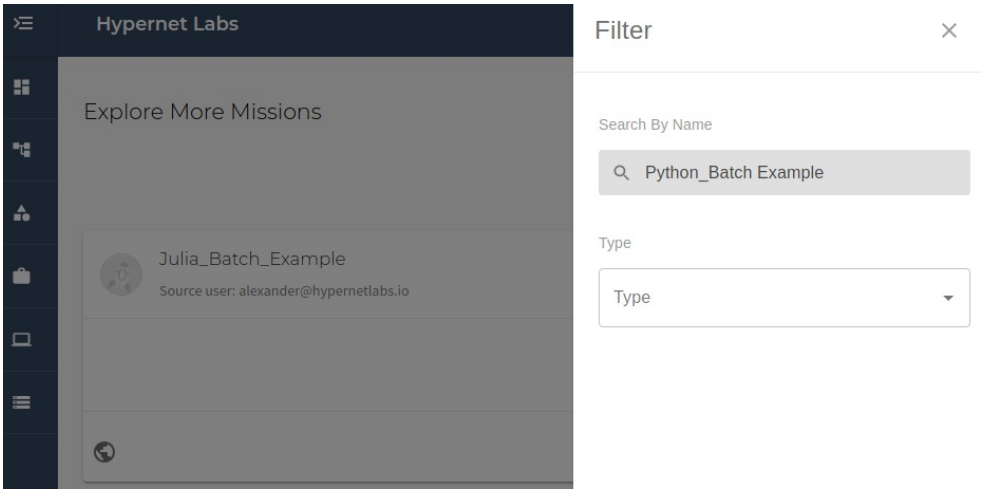
Understanding the user interface and cloning a Mission

When you log into Galileo, the first thing you'll see is your Dashboard:



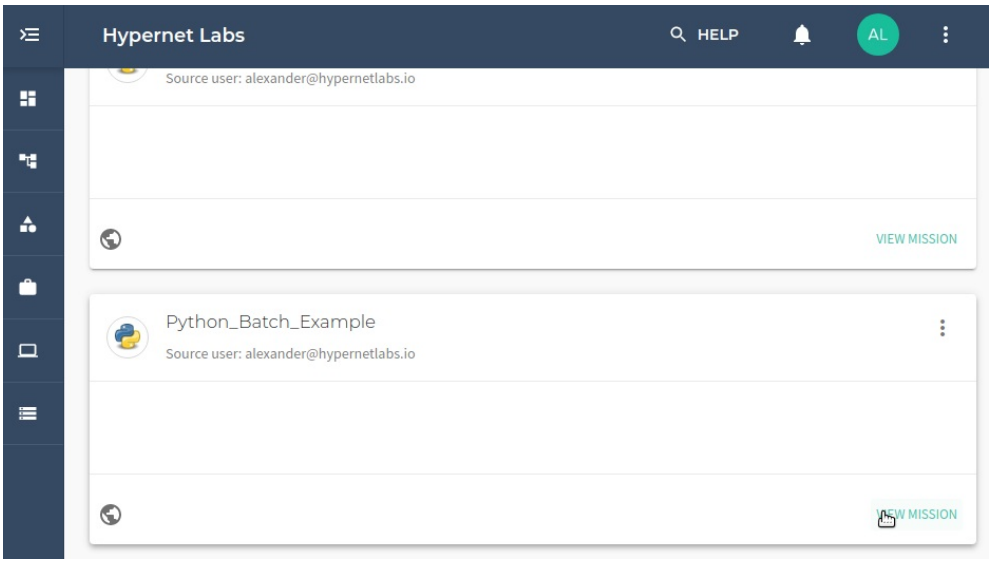
View of the Galileo Dashboard

To run the Python example, start by navigating to the Missions tab using the side menu. Clone the Python Batch example Mission from the Explore Missions tab. Use the filter to search for the mission by name and click "Apply".



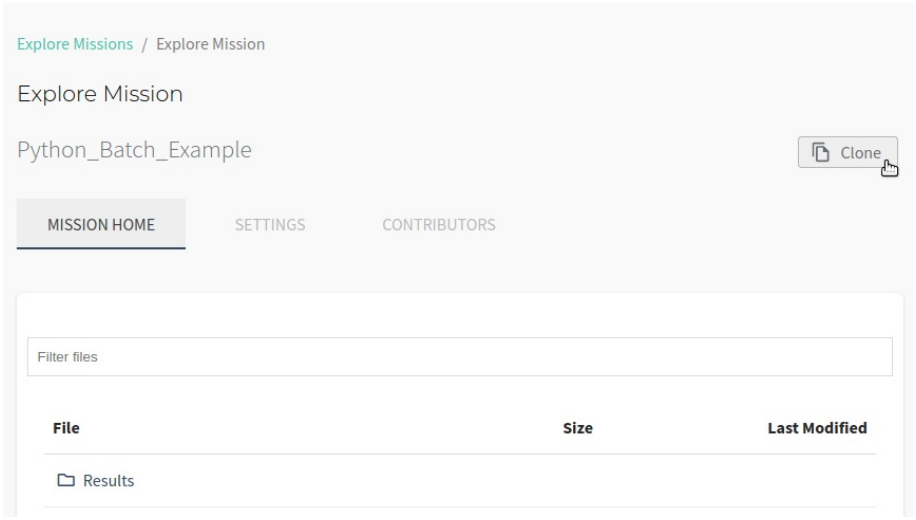
Find the public example mission by name

Once you have found the correct Mission, click "View Mission".



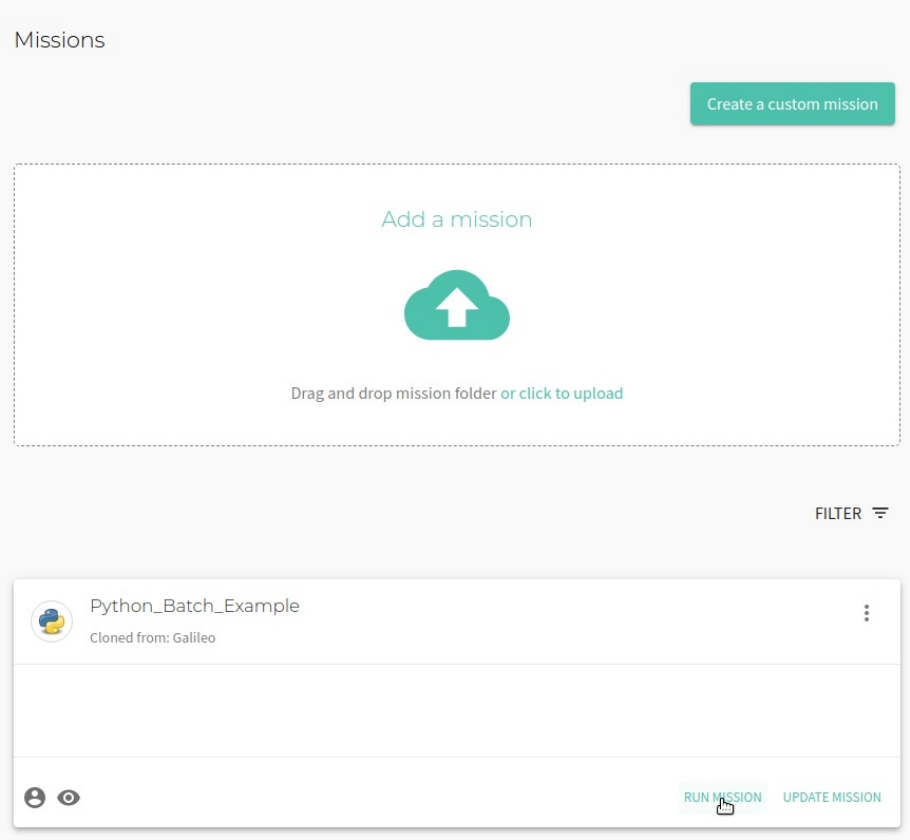
Click View Mission

To clone the public Mission to your account, click the “Clone” button in the upper right corner of the interface. Choose between creating a public or private clone and also choose which Cargo Bay to use.



Clone the mission

You will now see a cloned copy of the Mission in your Missions.



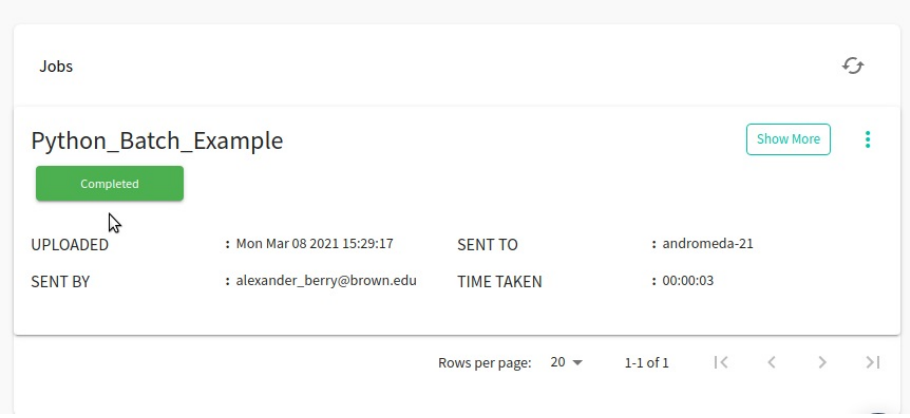
The cloned copy

Let's take a look at our files

The python_example.py script conducts a linear regression using data from the mtcars.csv file, makes two simple plots, and then runs a Monte Carlo simulation. The Monte Carlo simulates tossing a die 10 million times and calculates the ratio of rolls that equal six.

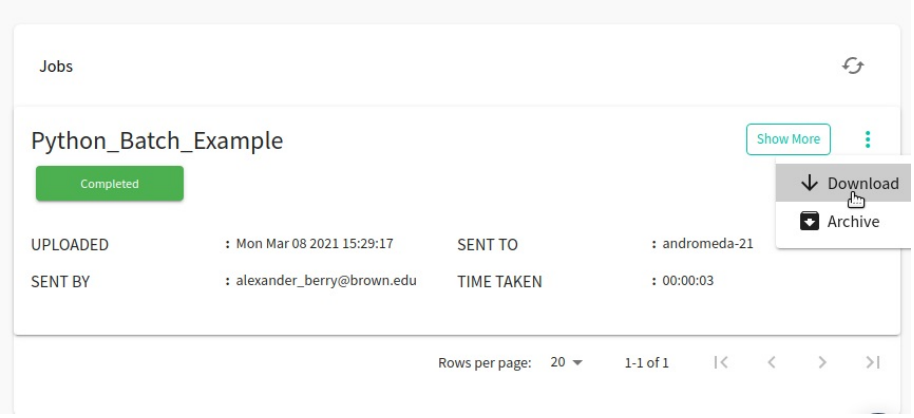
Running a job and collecting results

Now we are ready to run a job using the Mission. Click the **Run** button in the upper right corner of the Mission tab. You will see a "Mission run successfully!" message. At the bottom of the Mission tab, you can track the progress of the job.



Track job progress

Once the computation is completed, the job will shut down and collect the results. Once the job progress reads "Completed", you can download the results by opening the three-dot menu and clicking **Download**.



Download results

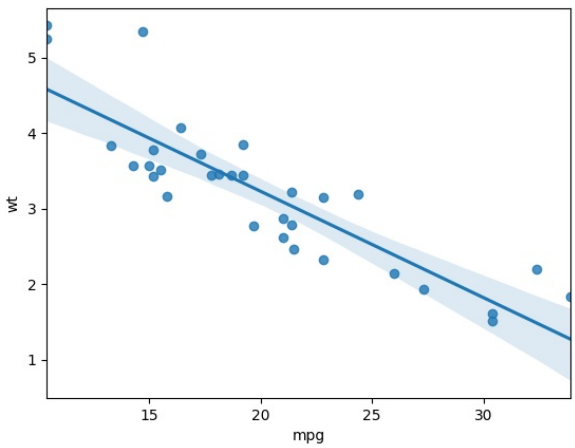
Let's take a look at the the output.log file first, which returns the results of the regression and simulation:

```
Run a simple OLS regression
                            OLS Regression Results
==============================================================================
Dep. Variable:                    mpg   R-squared:                       0.753
Model:                            OLS   Adj. R-squared:                  0.745
Method:                 Least Squares   F-statistic:                     91.38
Date:                Mon, 08 Mar 2021   Prob (F-statistic):           1.29e-10
Time:                        20:29:28   Log-Likelihood:                -80.015
No. Observations:                  32   AIC:                             164.0
Df Residuals:                      30   BIC:                             167.0
Df Model:                           1
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
Intercept     37.2851      1.878     19.858      0.000      33.450      41.120
wt            -5.3445      0.559     -9.559      0.000      -6.486      -4.203
==============================================================================
Omnibus:                        2.988   Durbin-Watson:                   1.252
Prob(Omnibus):                  0.225   Jarque-Bera (JB):                2.399
Skew:                           0.668   Prob(JB):                        0.301
Kurtosis:                       2.877   Cond. No.                         12.7
==============================================================================

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
Run a simple Monte Carlo
Show that the probability of rolling a 6 is .166 by simulating throwing a die 1 million ties and calculating the ratio of sixes
probability = 0.16739
CPU time: 1.2255025769700296
```

Output.log results

Next, if we look in the results folder, we can see the plot we created for the regression:



Regression plot

Contact us

We hope this tutorial was helpful. Please let us know if you have any questions or any problems using Galileo. Your feedback is

extremely important to us. Contact us anytime at matthew@hypernetlabs.io or alexander@hypernetlabs.io.