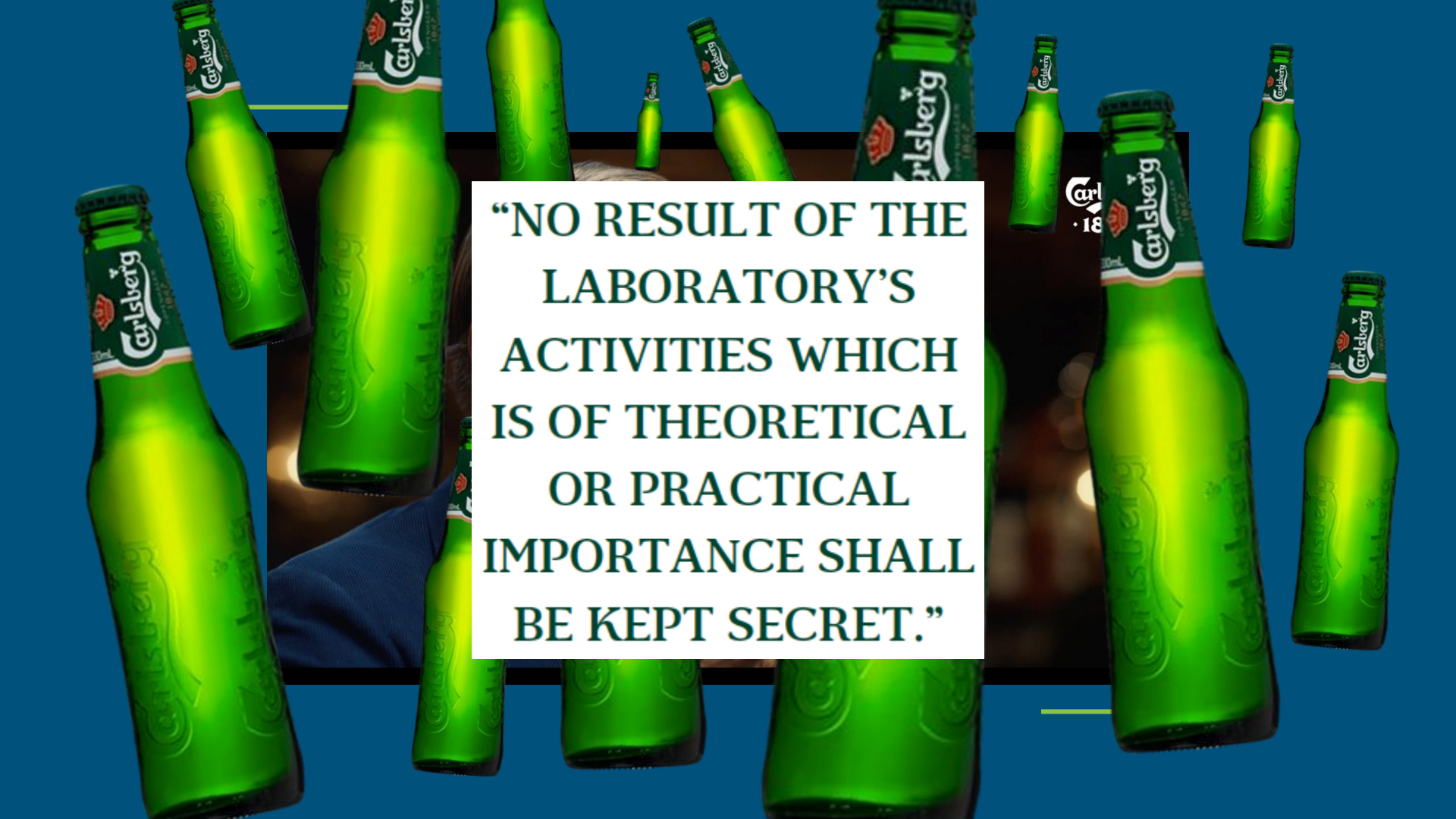
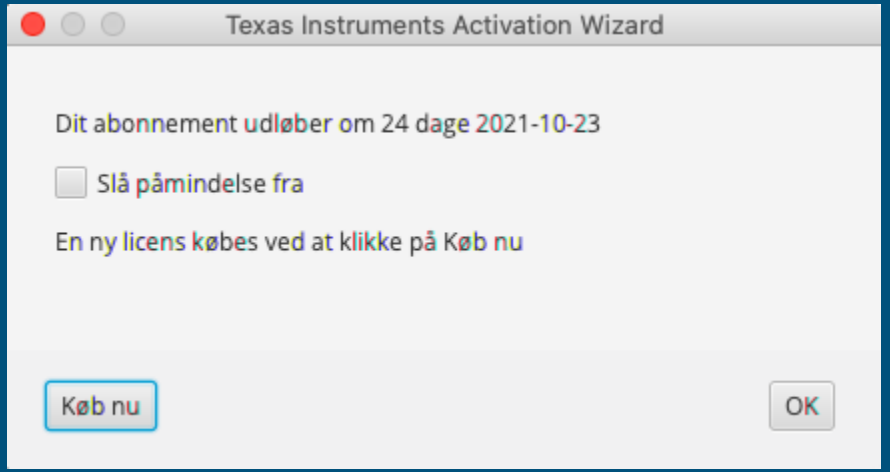

“NO RESULT OF THE LABORATORY’S ACTIVITIES WHICH IS OF THEORETICAL OR PRACTICAL IMPORTANCE SHALL BE KEPT SECRET.”

The problem and the solution

- Too much data is lost
- There is no access
- Not reproducible

- The solution: Open Science

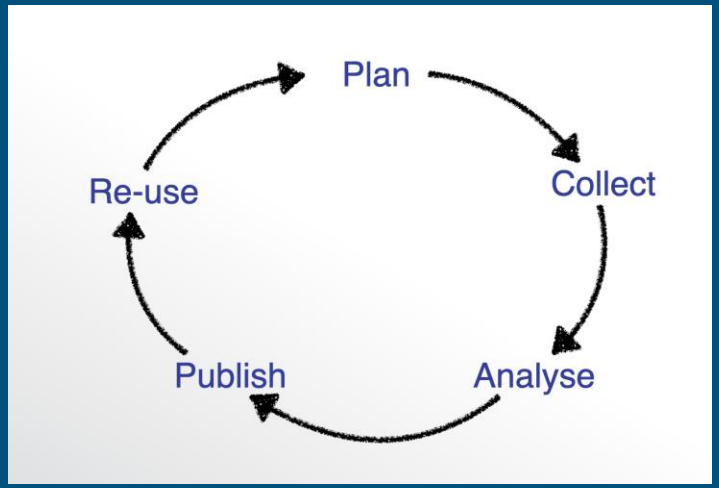


But what exactly is Open Science?

Open Science

- Knowledge should be free with unhindered access
- Easy for all parties involved

Research cycle:



How does Open Science function in practice?

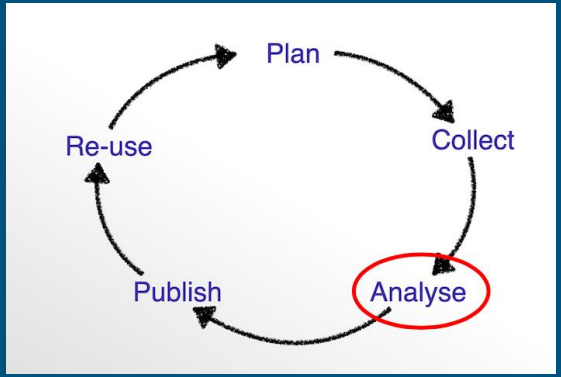
What have we been doing for the past 2 weeks

Terminal commands

- Get familiar with navigating
- Different interface to our computer

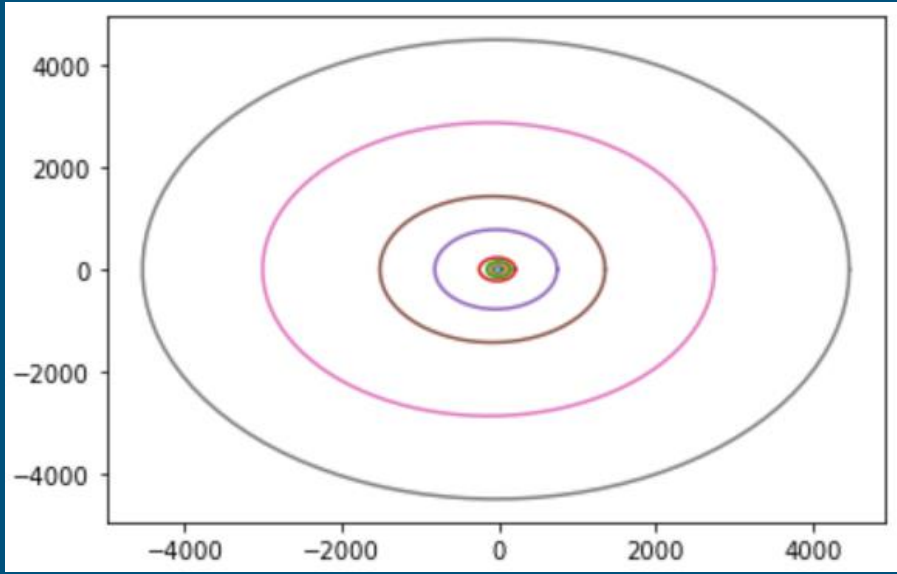
```
joep0@LAPTOP-3KU339S4 MINGW64 ~
$ cd Desktop

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop
$ mkdir Presentation

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop
$ cd Presentation

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop/Presentation
$ nano croissant.txt

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop/Presentation
$ cat croissant.txt
This is a croissant

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop/Presentation
$ ls
croissant.txt

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop/Presentation
$ mkdir removal

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop/Presentation
$ ls
croissant.txt  removal/

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop/Presentation
$ rm -r removal

joep0@LAPTOP-3KU339S4 MINGW64 ~/Desktop/Presentation
$ ls
croissant.txt
```

Analyse



Python

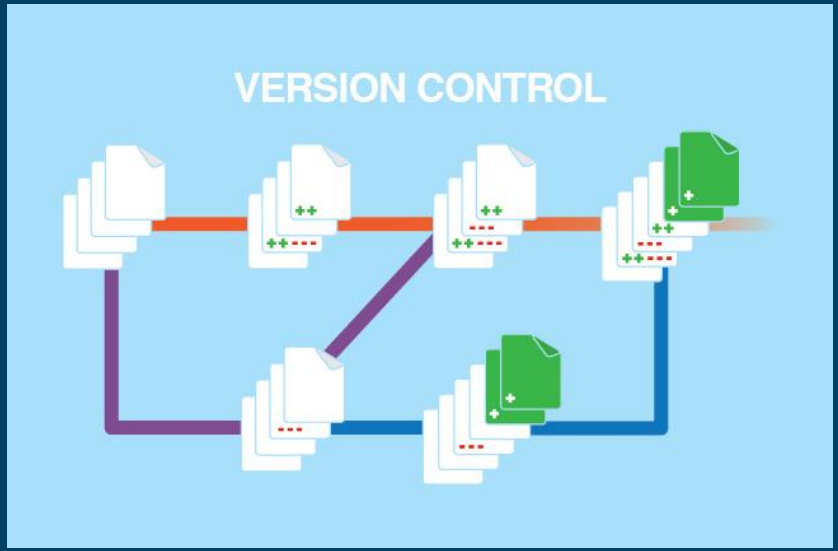
- Rewriting in programming language




```
import pandas as pd

import numpy as np

from matplotlib import pyplot as plt

data = pd.read_csv('data/mydata.csv')
```

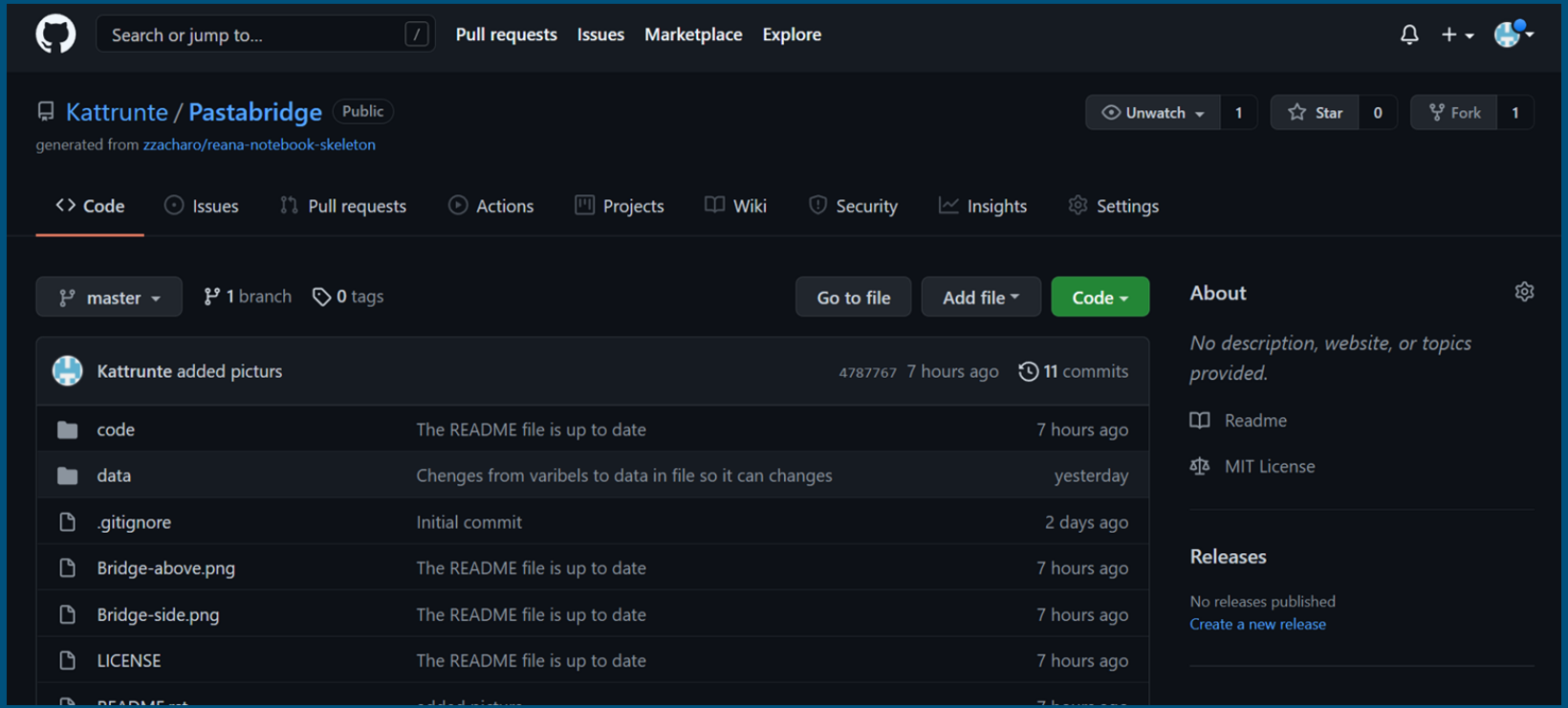
```
for i in range(0, 8):

    a = data.a[i]

    xcen = data.perihelion[i] - a

    ycen = 0

    b = data.b[i]

    t = np.linspace(0, 2*np.pi, 100)

    plt.plot(xcen + a * np.cos(t), ycen + b * np.sin(t))

    plt.grid(color = "black", linestyle = "--")

plt.savefig("plot.png")
```

Ever heard of version control?

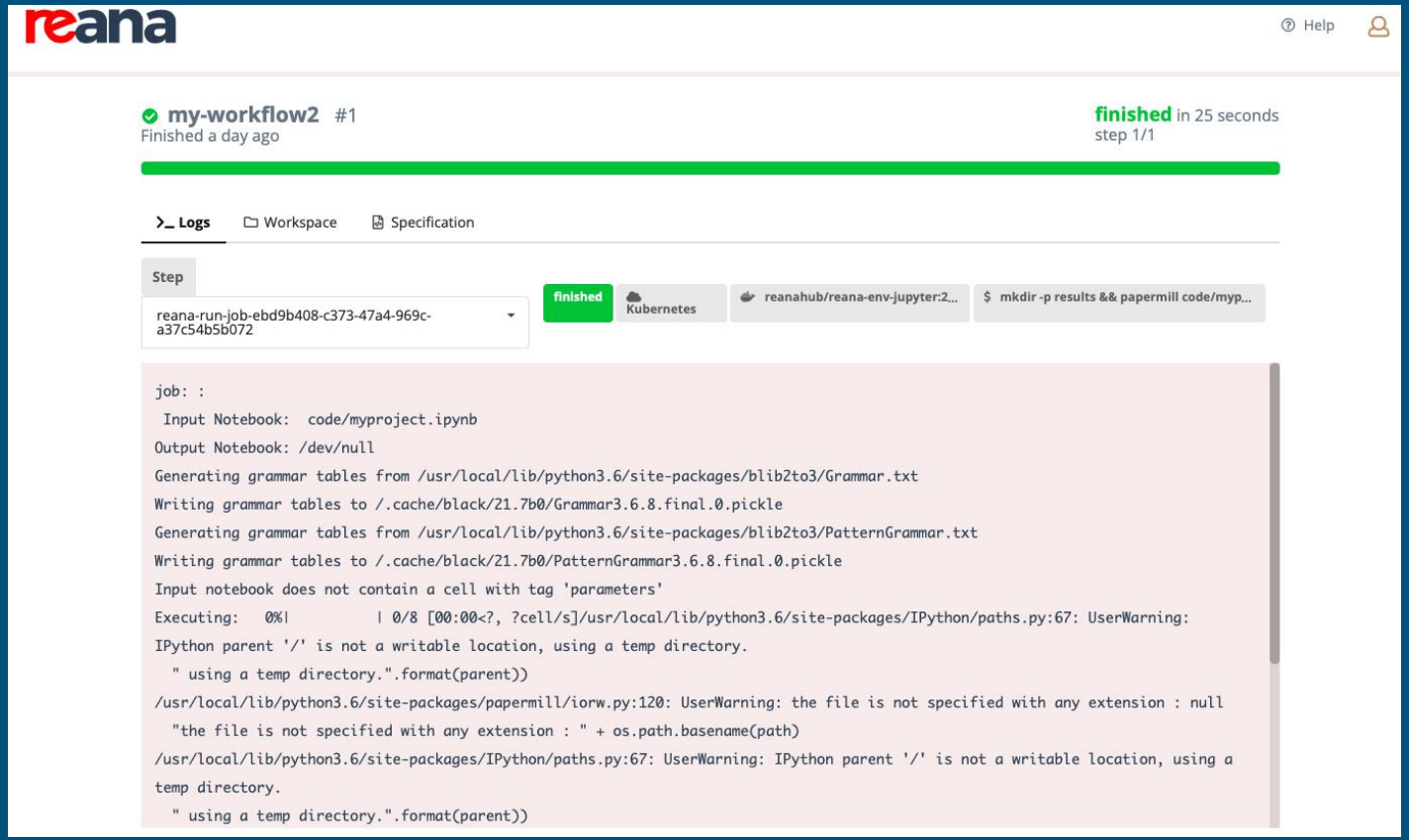


Github

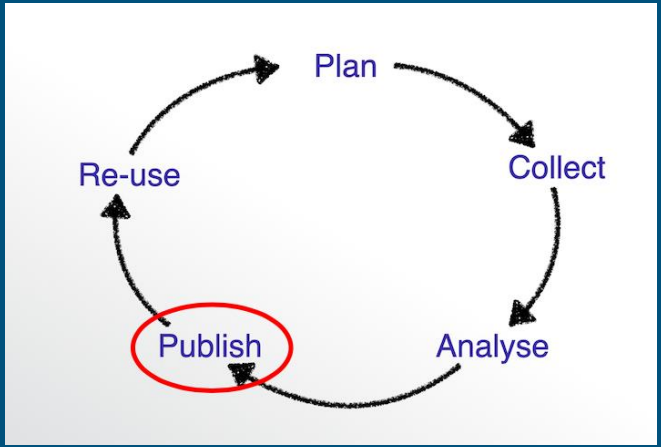
- Share the new project to a shared workspace



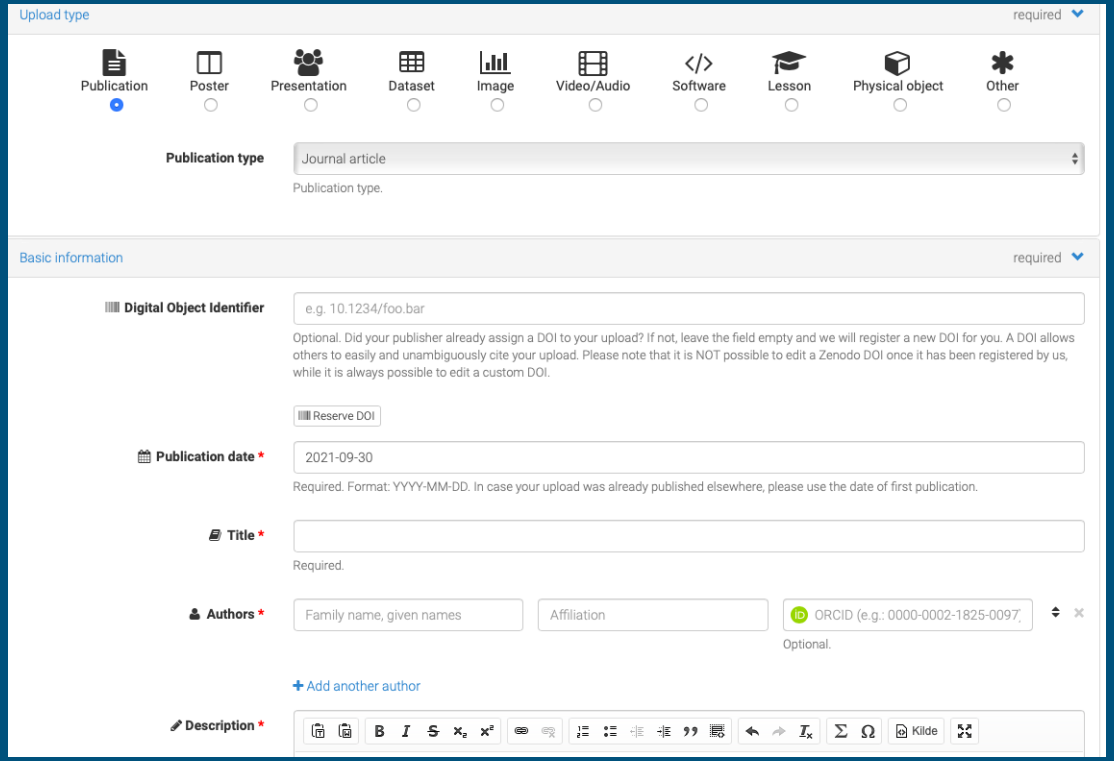
Reana


reana
Help
my-workflow2 #1
Finished a day ago
finished in 25 seconds
step 1/1
Logs
Workspace
Specification
Step
reana-run-job-ebd9b408-c373-47a4-969c-a37c54b5b072
finished
Kubernetes
reanahub/reana-env-jupyter:2...
$ mkdir -p results && papermill code/myp...
job: :
Input Notebook: code/myproject.ipynb
Output Notebook: /dev/null
Generating grammar tables from /usr/local/lib/python3.6/site-packages/blib2to3/Grammar.txt
Writing grammar tables to /.cache/black/21.7b0/Grammar3.6.8.final.0.pickle
Generating grammar tables from /usr/local/lib/python3.6/site-packages/blib2to3/PatternGrammar.txt
Writing grammar tables to /.cache/black/21.7b0/PatternGrammar3.6.8.final.0.pickle
Input notebook does not contain a cell with tag 'parameters'
Executing: 0%| | 0/8 [00:00<?, ?cell/s]/usr/local/lib/python3.6/site-packages/IPython/paths.py:67: UserWarning:
IPython parent '/' is not a writable location, using a temp directory.
" using a temp directory.".format(parent))
/usr/local/lib/python3.6/site-packages/papermill/iorw.py:120: UserWarning: the file is not specified with any extension : null
"the file is not specified with any extension : " + os.path.basename(path)
/usr/local/lib/python3.6/site-packages/IPython/paths.py:67: UserWarning: IPython parent '/' is not a writable location, using a
temp directory.
" using a temp directory.".format(parent))

Publish



Zenodo



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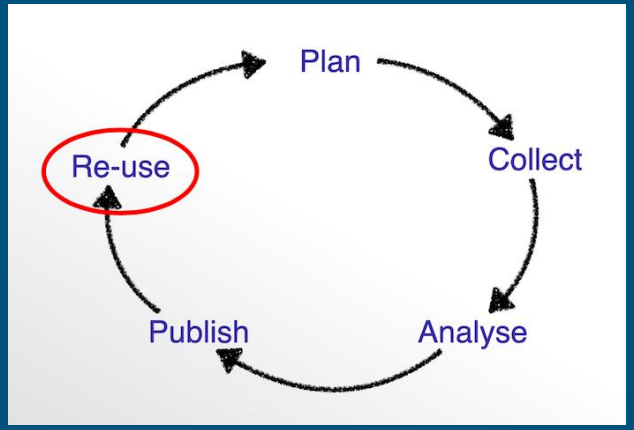
DOI 10.5281/zenodo.5537904

Related identifiers:
Supplement to
https://github.com/huggingface/transformers/tree/v4.11.1

Communities:
Zenodo

License (for files):
Other (Open)

Re-use



Sooo… What's the point of this?

Why Open Science?

- Key messages:
  - Science builds science
  - Access for everyone
  - Transparency of science
  - Benefits for you
    - No data-loss
    - Save time
    - Job opportunities

```
def learnMore (wantToLearnMore):
    if (wantToLearnMore == True):
        answer = "Go to https://swcarpentry.github.io/shell-novice/"
    else :
        answer = "Go on, be ignorant!"
    return (answer)
```