Day 1

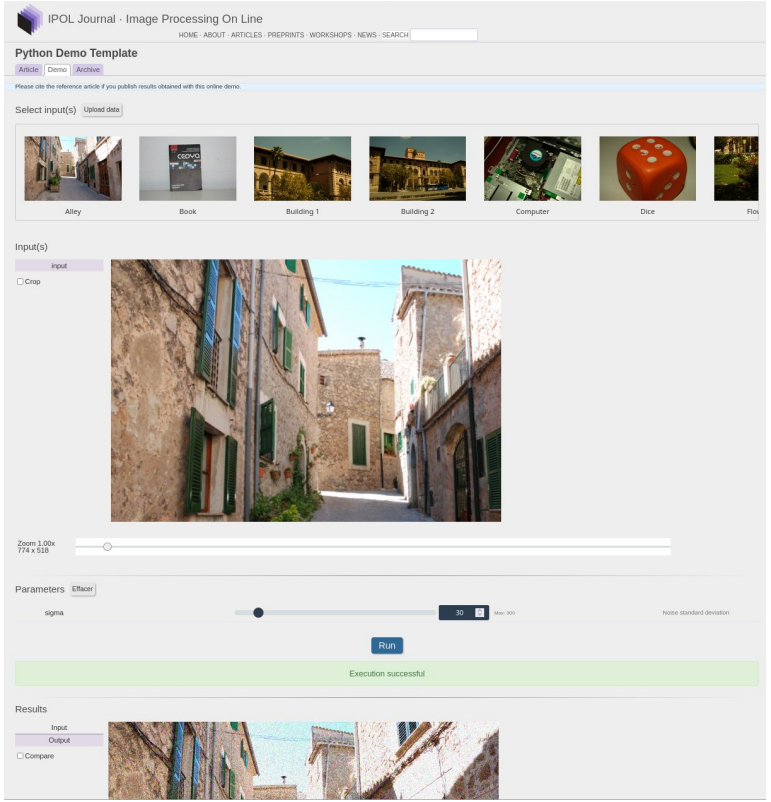
IPOL and your code

IPOL online demo

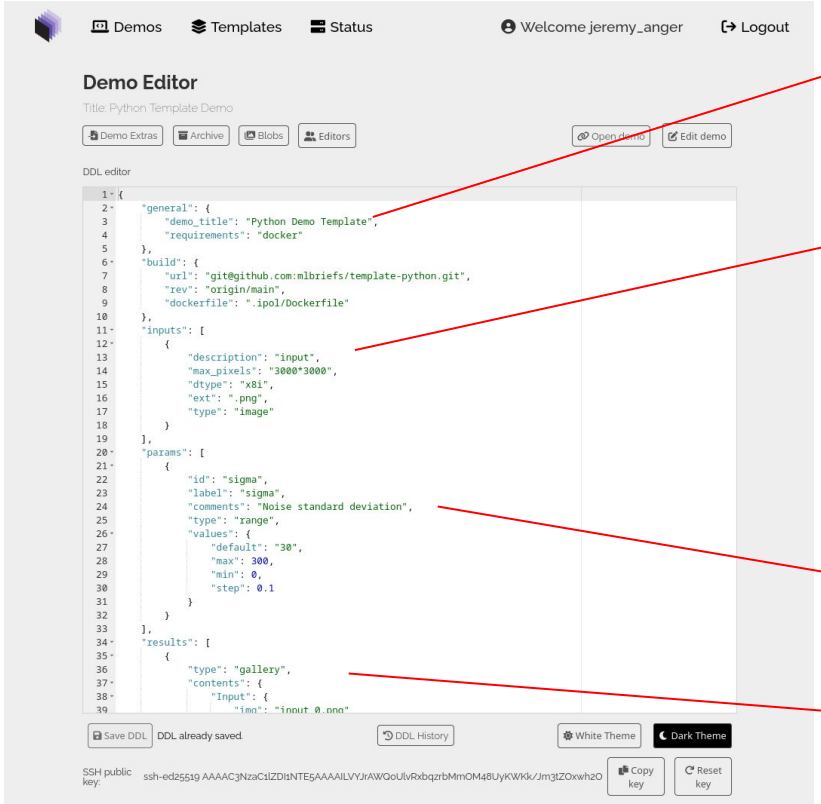
Online demos define:

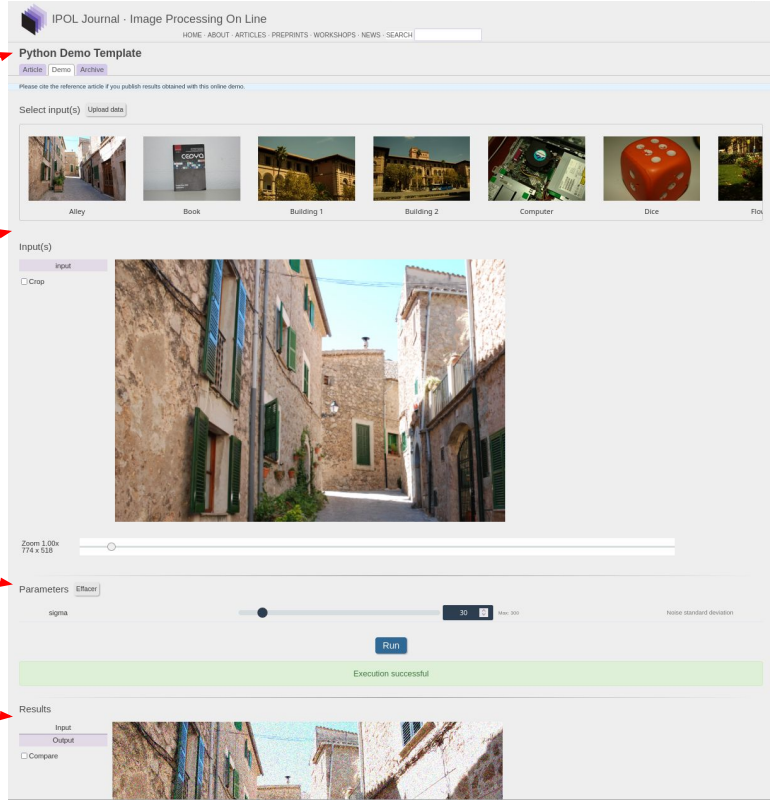
- inputs
- parameters
- outputs

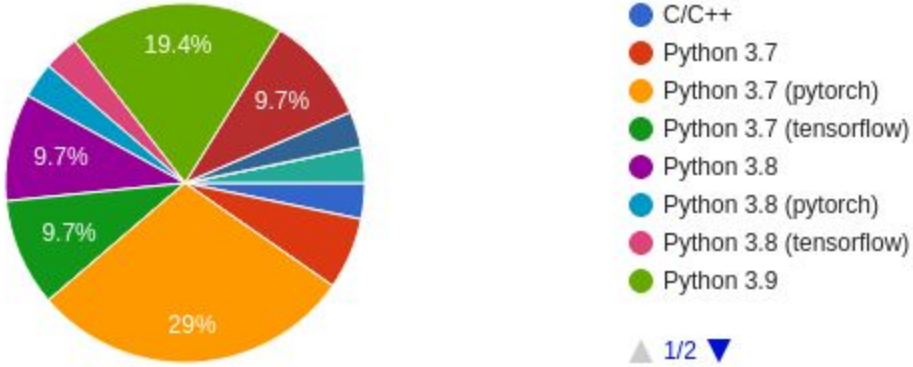
- location of the source code
- description of the environment
- command line to execute the method



IPOL online demo






19.4%
9.7%
9.7%
9.7%
29%
C/C++
Python 3.7
Python 3.7 (pytorch)
Python 3.7 (tensorflow)
Python 3.8
Python 3.8 (pytorch)
Python 3.8 (tensorflow)
Python 3.9
1/2

Today: prepare the code

- Check the code licence if it is not your own
- checkout the template for Python: https://github.com/mlbriefs/template-python
- identify the inputs / parameters / outputs of the method
  - type and range for parameters
    - expose them to command line (*argparse*, etc)
  - format for inputs/outputs (images, plots, text, …)
- list Python requirements (with version number) and system libraries required
- upload large files (weights) to our nextcloud
- the execution shouldn't last more than 30secs (with many cores)
  - reduce the size of the inputs if necessary
- if it runs in a notebook, convert it to a Python script
- make sure the method works as expected locally!

And prepare your one-minute slide too!

A template for your demo

Take a look at https://github.com/mlbriefs/template-python

It's a template for Python code (no template for C/C++/… yet)

Look at the `.ipol/` folder too.

The corresponding demo is here:

public demo: https://ipolcore.ipol.im/demo/clientApp/demo.html?id=55555500001
control panel: https://ipolcore.ipol.im/cp2/showDemo?demo_id=55555500001&title=Python%20Template%20Demo

Clean the inputs / parameters / outputs of the code

Expose the parameters and inputs / outputs filenames:

```
python main.py --input myimage.png --sigma 25 --output result.png
```

In Python, use argparse or other tools.

On IPOL:

```
python $bin/main.py --input input_0.png --sigma $sigma --output output.png
```

Clean up the code

Make sure your code can be executed from anywhere on the filesystem:

```
[user@laptop:~/myproject]$ python main.py
…
[user@laptop:~/myproject]$ cd /tmp
[user@laptop:/tmp]$ python ~/myproject/main.py
…
```

Instead of

```
torch.load('weights.pth')
```

use

```
ROOT = os.path.dirname(os.path.realpath(__file__))
torch.load(os.path.join(ROOT, 'weights.pth'))
```

or expose it as parameter

In IPOL, the code is in $bin, but the execution is elsewhere: “`python $bin/main.py`”

Github invitation

You were invited on a Github repository (in the organization *mlbriefs*)

this will be useful for tomorrow

For now the repository only contains the template, but feel free to start putting your code there

Upload large files on our nextcloud

Github limits to 100MB per file. After that, the push is rejected and you have to remove the commit from your branch.

Upload your large files (e.g. network weights) somewhere else, or ask us for a solution

Ask us if you have any question (in person or slack)

Q&A document: https://docs.google.com/document/d/1osB7JiTlhT7BjpPrWQml9TCrQdjLJR1QJxeKIrfLMDI/edit?usp=sharing

it will be completed during the week with your questions!