Magnetization Transfer

T_1 Relaxometry

Noise

T_2 Relaxometry

Field Maps

Diffusion Imaging

qMR Lab

Quantitative MRI. Under one umbrella.

qMT SPGR

MTsat

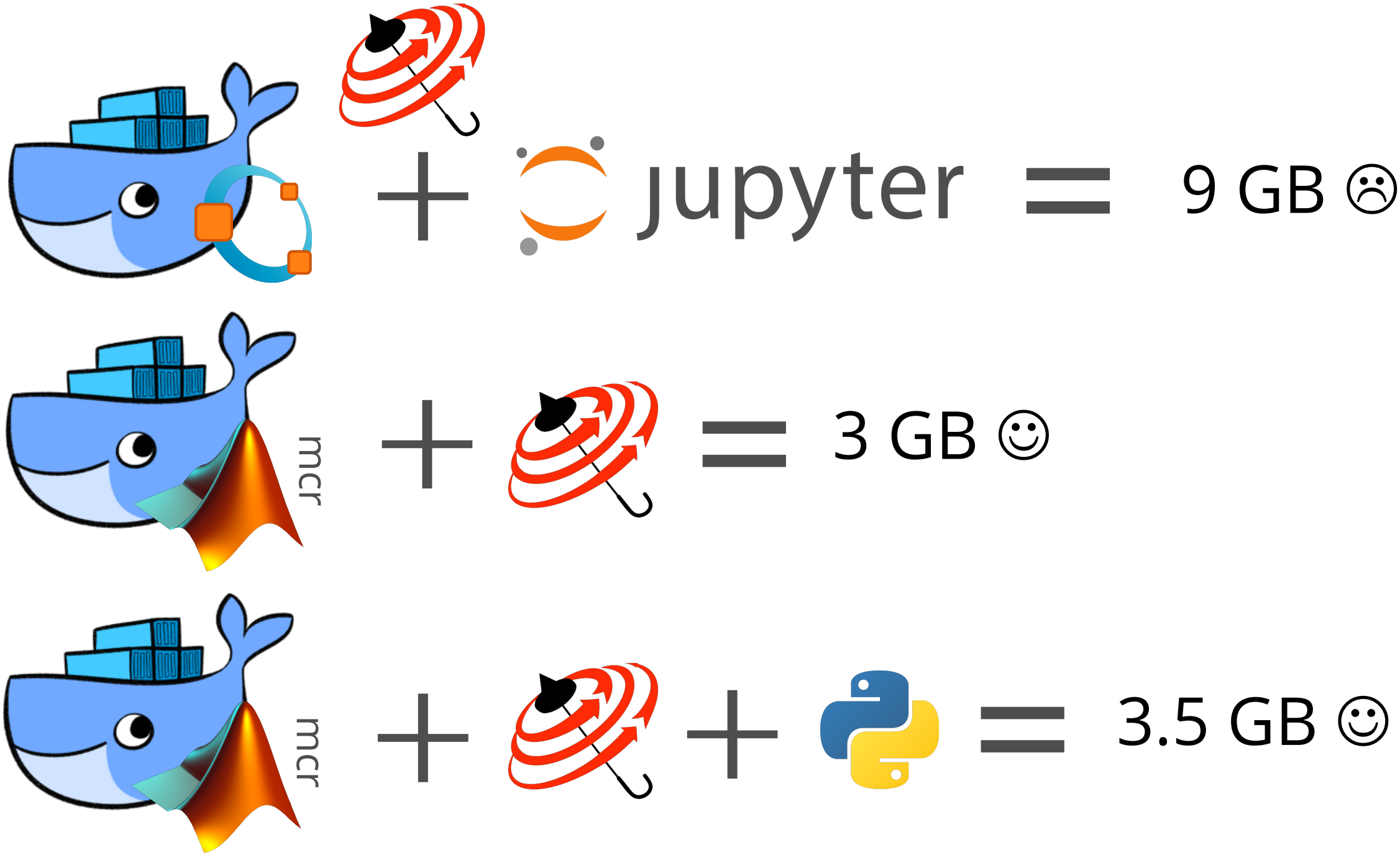
Magnetization Transfer

qMT bSSFP

qMT SIRFSE

Dockerize qMRLab

1


jupyter
9 GB ☹
mcr
3 GB ☺
mcr
3.5 GB ☺

Advantage 1

Use qMRLab with Python!

```
from qmrlab import mt_sat
myMTsat = mt_sat.initialize()
mtMTsat.fit('/path to demo')
mtMTsat.terminate()
```

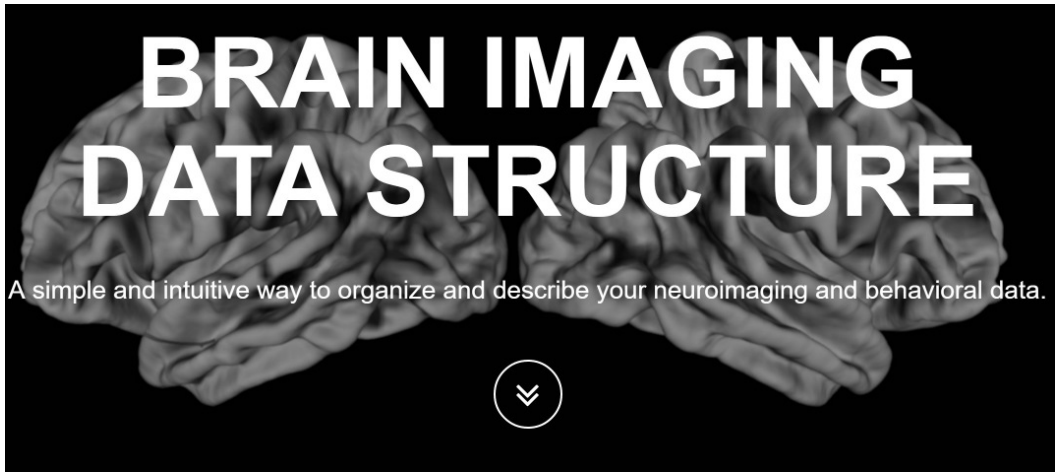
Advantage 2

Use qMRLab on command line

```
./mt_sat.sh path_to_mcr /data_folder /options.json /output
```

:p

Towards making qMRLab a BIDS app



2

Towards

cbrain

qMRLab is BIDS ready

But BIDS is not ready for qMRI. Nonetheless:

Agah and/or Nikola - Are you on the BIDS mailing list? (You can join at: https://groups.google.com/forum/#!forum/bids-discussion). I'll try to keep that list updated on any discussions we have at OHBM about coming up with a sensible standard naming for the different qMRI scans that folks have. I can also forward those emails if you'd prefer to not join the list.

We also have Patrick Park (our BIDS starter kit GSoC student) visiting Montreal next week, and if you have time Agah and/or Nikola I'd love to set up a meeting with him to talk about your experience working with a BEP. We'd like to make this process easier, generally, and it'd be great to share your experience thus far !

Brainhack communication pawed the way

Till then, we made JSONs easy to get

https://tommyboshkovski.github.io/json/

Select Category: Magnetization Transfer

Select Method: MT Sat

Path data Browse

Filename	Image Type	Repetition Time (in sec)	Flip Angle
agahdemo/MTw.nii.gz	MTw	0.028	10
agahdemo/PDw.nii.gz	PDw	0.028	10
agahdemo/T1w.nii.gz	T1w	0.018	20

Submit


```
{
  "mt_sat": {
    "MTw": {
      "Filename": "MTw.nii.gz",
      "FlipAngle": 6,
      "RepetitionTime": 0.028
    },
    "PDw": {
      "Filename": "PDw.nii.gz",
      "FlipAngle": 6,
      "RepetitionTime": 0.028
    },
    "T1w": {
      "Filename": "T1w.nii.gz",
      "FlipAngle": 20,
      "RepetitionTime": 0.028
    }
  }
}
```

Having command line & Docker means that..

Boutiques

Clowdr

Singularity

First MTsat run on CBRAIN

```
[agkar@gra-login4 clowdr]$ cat stdout-0.txt
----------------------------------------
Setting up environment variables
---
LD_LIBRARY_PATH is .:/usr/local/MATLAB/MATLAB_Runtime/v91/runtime/glnxa64:/usr/local/MATLAB/MATLAB_Runtime/v91/bin/glnxa64:/u
/local/MATLAB/MATLAB_Runtime/v91/sys/os/glnxa64:/usr/local/MATLAB/MATLAB_Runtime/v91/sys/opengl/lib/glnxa64
Compile Faddeeva...
               ...ok
Provided MTw data:
   128   128    96

Provided T1w data:
   128   128    96

Provided PDw data:
   128   128    96

Fitting data...
...done
Saving Results to ~/agahdemo/
```

A workflow example..

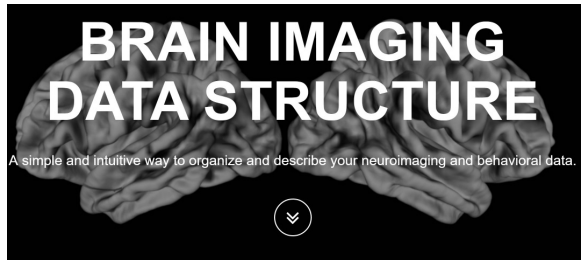
Next hackathon maybe ? ☺

3

Special thanks to

Tristan Glatard

Elizabeth DuPre



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