

Reproducibility of computational research with *Sumatra*

Presented by

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felix11h.github.io/

Resources and links

Sumatra:
neuralensemble.org/sumatra/
Open Science Fellows Program:
wikimedia.de/Fellowprogramm

Slides

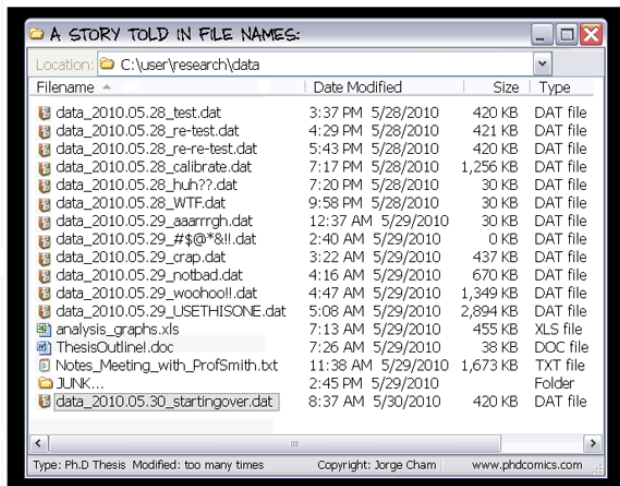
GitHub:
git.io/vFEbX

GSoC project organization

International Neuroinformatics
Coordinating Facility (INCF)
incf.org



Reproducibility is a problem in computational research...



"Piled Higher and Deeper" by Jorge Cham
www.phdcomics.com

Reproducibility is a problem in computational research...

“Why did I do that?”

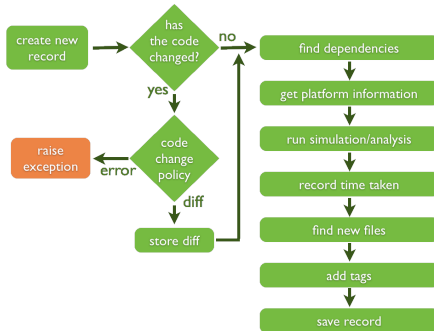
Reproducibility is a problem in computational research...

“Why did I do that?”

“It worked yesterday.”

... a solution.

Sumatra



*“An automated
electronic lab
notebook for
computational
research”*

Sumatra: Computational_Results: List of records - Mozilla Firefox

anisotropic-connectivity x Sumatra: Computational_ x +

127.0.0.1:8000/Computational_Results/

Computational_Results Search Search Settings

New record Computational_Results

1 - 10 of 206

RepositoryLabel	Reason	Outcome	Duration	Processes	Date	Time	Version
research/33e77b1d_present	perin 12 counts		6.86s	1	21/04/2015	18:28:24	682a2
research/33e77b1d	perin 12 counts		7.23s	1	21/04/2015	18:27:35	682a2
research/ecc48ba4	presentation		4.38s	1	21/04/2015	18:24:26	a9709
research/9f9452a2_plos	song motifs 1-16		5.29s	1	19/04/2015	16:53:31	b0688
research/85c70a9f_1v1	perin 8 counts trial test		7.14s	1	18/04/2015	18:51:25	6378c
research/85c70a9f_2v2	perin 8 counts trial test		5.97s	1	18/04/2015	17:45:12	65227
research/9699018e_2v2	perin 8 counts trial test		5.56s	1	18/04/2015	17:40:22	35382
research/9699018e_1v1	perin 8 counts trial test		5.78s	1	18/04/2015	17:40:01	35382
research/21706644	perin 6 counts		5.80s	1	17/04/2015	20:42:14	2b4d7
research/7c211e09	perin 8 counts		6.05s	1	17/04/2015	18:58:37	d1012

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research ecc48ba4	presentation		4.38s	1	21/04/2015	18:24:26	a9709
research 9f9452a2_plos	song motifs 1-16		5.29s	1	19/04/2015	16:53:31	b0888
research 85c70a9f_1v1	perin 8 counts trial test		7.14s	1	18/04/2015	18:51:25	6378c
research 85c70a9f_2v2	perin 8 counts trial test		5.97s	1	18/04/2015	17:45:12	65227
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research 9699018e_1v1	perin 8 counts trial test		5.78s	1	18/04/2015	17:40:01	35382
research 21706644	perin 6 counts		5.80s	1	17/04/2015	20:42:14	2b4d7
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research 9f9452a2_plos	song motifs 1-16		5.29s	1	19/04/2015	16:53:31	b0888
research 95c70a9f_1v1	perin 8 counts trial test		7.14s	1	18/04/2015	18:51:25	6378c
research 95c70a9f_2v2	perin 8 counts trial test		5.97s	1	18/04/2015	17:45:12	65227
research 9699018e_2v2	perin 8 counts trial test		5.56s	1	18/04/2015	17:40:22	35382
research 9699018e_1v1	perin 8 counts trial test		5.76s	1	18/04/2015	17:40:01	35382
research 2170664	perin 6 counts		5.80s	1	17/04/2015	20:42:14	2b4d7
research 7c211a09	perin 8 counts		6.05s	1	17/04/2015	18:58:37	d1012

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Sumatra: Test: List of records - Mozilla Firefox

anisotropic-connectivity x Sumatra: Test: List of reco x +

127.0.0.1:8000/Test/

TEST Switch to Data view Settings

Search:

label	tag	reason	outcome	Input data	output data	duration	time	exec.	main	version
3eee	data, test,	choose highest data		376f.p, 5b74.p, ex_img.png	3eee.p	0.07s	18/08/2014 10:20:46	Python 2.7.3	comp/choose_highest_data.py	7d95cf
5b74	data, test,	choose highest data		376f.p, 8b64_0.p, 445b_1.p	5b74.p	0.07s	18/08/2014 09:59:19	Python 2.7.3	comp/choose_highest_data.py	7d95cf
376f	data, test,	choose highest data		8b64_0.p, 445b_2.p	376f.p	0.07s	18/08/2014 09:56:49	Python 2.7.3	comp/choose_highest_data.py	7d95cf
445b	data, test,	generate test data			445b_0.p, 445b_1.p, 445b_2.p	0.06s	18/08/2014 09:55:11	Python 2.7.3	comp/generate_data.py	7d95cf

Showing 1 to 4 of 4 entries

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0.7.0-dev

Sumatra: Test: List of records - Mozilla Firefox

anisotropic-connectivity x Sumatra: Test: List of reco x +

127.0.0.1:8000/Test/

TEST Switch to Data view Settings

Search:

label	tag	reason	outcome	Input data	output data	duration	time	exec.	main	version
3eee	data, test,	choose highest data		37bf.p, 5b74.p, ex_img.png	3eee.p	0.07s	18/08/2014 10:20:46	Python 2.7.3	comp/choose_highest_data.py	7d85f
5b74	data, test,	choose highest data		37bf.p, 8b64_0.p, 445b_1.p	5b74.p	0.07s	18/08/2014 09:59:19	Python 2.7.3	comp/choose_highest_data.py	7d85f
37bf	data, test,	choose highest data		8b64_0.p, 445b_2.p	37bf.p	0.07s	18/08/2014 09:56:49	Python 2.7.3	comp/choose_highest_data.py	7d85f
445b	data, test,	generate test data			445b_0.p, 445b_1.p, 445b_2.p	0.06s	18/08/2014 09:55:11	Python 2.7.3	comp/generate_data.py	7d85f

Showing 1 to 4 of 4 entries

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0.7.0-dev

Sumatra: Data: List of records - Mozilla Firefox

anisotropic-connectivity x Sumatra: Data: List of records x +

127.0.0.1:8000/Data/ Search

TEST Switch to Record view Settings

Search:

filename	path	digest	size	time	output of	Input to
3eee.p	3eee.p	375ad589c...	56 bytes	18/08/2014 10:20:46	3eee	
5b74.p	5b74.p	375ad589c...	56 bytes	18/08/2014 09:59:19	5b74	3eee
376f.p	376f.p	e9c874024...	56 bytes	18/08/2014 09:56:49	376f	3eee, 5b74
445b_0.p	subdir/445b_0.p	fe5ced92b...	56 bytes	18/08/2014 09:53:11	445b	
445b_1.p	subdir/445b_1.p	f6bda95b7...	56 bytes	18/08/2014 09:53:11	445b	5b74
445b_2.p	subdir/445b_2.p	5eb1c93b6...	55 bytes	18/08/2014 09:55:11	445b	376f
8b64_0.p	8b64_0.p	99806092b...	55 bytes			5b74, 376f
ex_img.png	ex_img.png	d71cb128b...	2.8 KB			3eee

Showing 1 to 8 of 8 entries Previous 1 Next

0.7.0-dev

Sumatra: Data: List of records - Mozilla Firefox

anisotropic-connectivity x Sumatra: Data: List of rec x +

127.0.0.1:8000/Data/

TEST Switch to Record view Settings

Search:

filename	path	digest	size	time	output of	Input to
3eee.p	3eee.p	375ad589c...	56 bytes	18/08/2014 10:20:46	3eee	
5b74.p	5b74.p	375ad589c...	56 bytes	18/08/2014 09:59:19	5b74	3eee
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445b_0.p	subdir/445b_0.p	fe5ced92b...	56 bytes	18/08/2014 09:53:11	445b	
445b_1.p	subdir/445b_1.p	f6bda95b7...	56 bytes	18/08/2014 09:53:11	445b	5b74
445b_2.p	subdir/445b_2.p	5eb1c93b6...	55 bytes	18/08/2014 09:55:11	445b	376f
8b64_0.p	8b64_0.p	99806092b...	55 bytes			5b74, 376f
ex_img.png	ex_img.png	d71cb128b...	2.8 KB			3eee

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Sumatra: Data: List of records - Mozilla Firefox

anisotropic-connectivity x Sumatra: Data: List of rec: x +

127.0.0.1:8000/Data/

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Search:

filename	path	digest	size	time	output of	Input to
3eee.p	3eee.p	375ad589c...	56 bytes	18/08/2014 10:20:46	3eee	
5b74.p	5b74.p	375ad589c...	56 bytes	18/08/2014 09:59:19	5b74	3eee
376f.p	376f.p	e9c874024...	56 bytes	18/08/2014 09:56:49	376f	3eee, 5b74
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8b64_0.p	8b64_0.p	99806092b...	55 bytes			5b74, 376f
ex_img.png	ex_img.png	d71cb128b...	2.8 KB			3eee

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Sumatra: Data: List of records - Mozilla Firefox

anisotropic-connectivity x Sumatra: Data: List of rec x +

127.0.0.1:8000/Data/

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filename	path	digest	size	time	output of	input to
3eee.p	3eee.p	375ad589c...	56 bytes	18/08/2014 10:20:46	3eee	
5b74.p	5b74.p	375ad589c...	56 bytes	18/08/2014 09:59:19	5b74	3eee
376f.p	376f.p	e9c874024...	56 bytes	18/08/2014 09:56:49	376f	3eee, 5b74
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445b_1.p	subdir/445b_1.p	f6bda95b7...	56 bytes	18/08/2014 09:53:11	445b	5b74
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445b_1.p	subdir/445b_1.p	f6bda95b7...	56 bytes	18/08/2014 09:55:11	445b	5b74
445b_2.p	subdir/445b_2.p	5eb1c93b6...	55 bytes	18/08/2014 09:55:11	445b	376f
8b64_0.p	8b64_0.p	99806092b...	55 bytes			5b74, 376f
ex_img.png	ex_img.png	d71cb128b...	2.8 KB			3eee

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0.7.0-dev

After GSoC



FORCE2015

Research Communications & e-Scholarship Conference

12 - 13 JANUARY, UNIVERSITY OF OXFORD

www.force2015.org

After GSoC



After GSoC



docker

+

Sumatra

=

computational reproducibility

After GSoC



docker

+

Sumatra

=

computational reproducibility

Let's talk!

Thank you!

Presented by

Felix Z. Hoffmann
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felix11h.github.io/

Resources and links

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