Sumatra as an Open Science tool

Presenter

Felix Hoffmann

@Felix11H

felix11h.github.io/

Slides

Slideshare:
tiny.cc/opencon-smt

Source:
tiny.cc/github-slides

Sumatra Resources

Website:
neuralensemble.org/sumatra/

Getting started:
packages.python.org/Sumatra/

Repository:
bitbucket.org/apdavison/sumatra/

Mailinglist:
tiny.cc/smt-user

Maintainer: Andrew Davison

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Spectrum of Reproducibility

... in Computational Research

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reproduction from
descriptions in
research article

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Tough!

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same code,

Tough!

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same code, same machine,

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same code, same machine, same researcher

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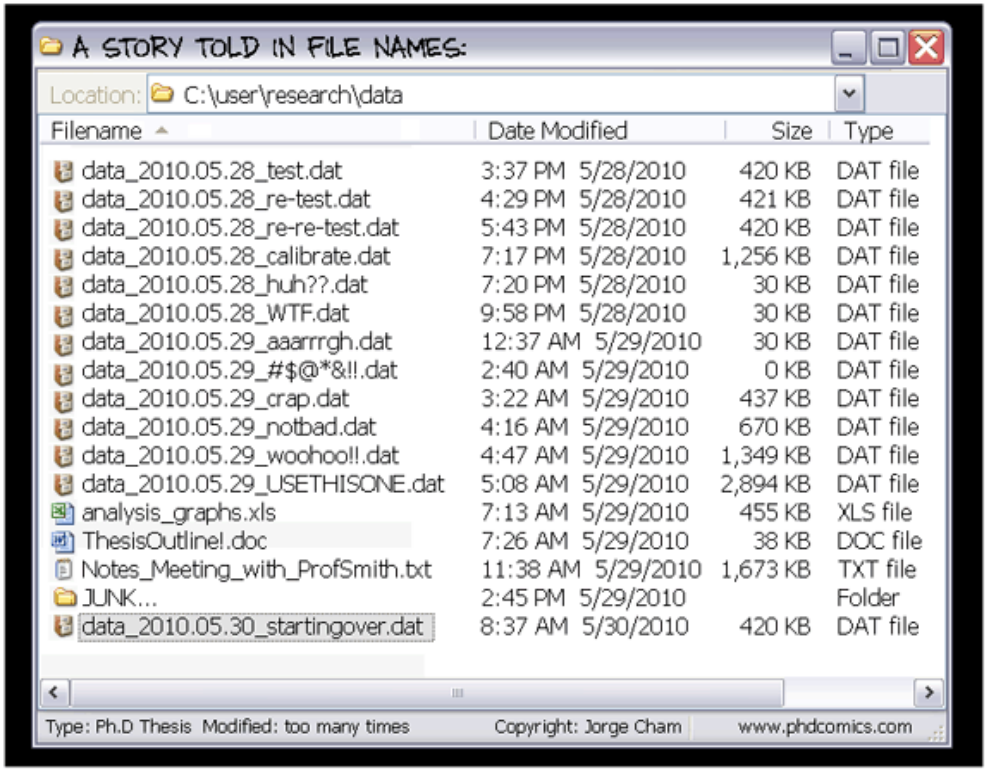
same code, ~~same machine~~, ~~same researcher~~

Tough!

~~Easy!~~ if only!

The problems...

Which version of my code did I use?

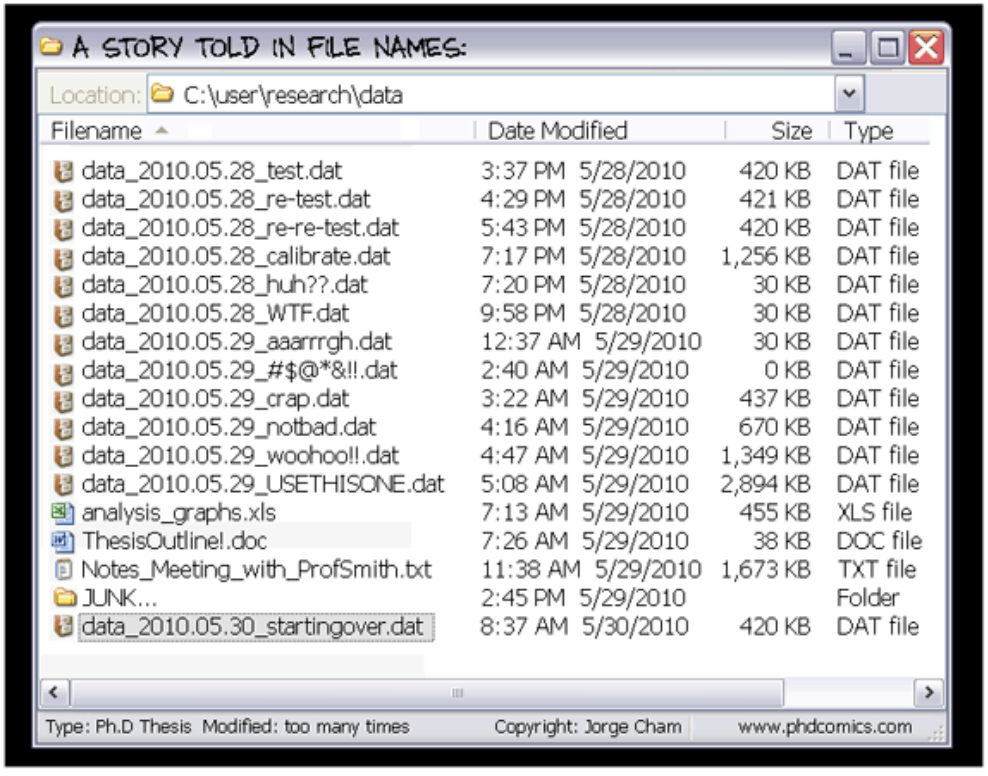


"Piled Higher and Deeper" by Jorge Cham
www.phdcomics.com

The problems...

Which version of my code did I use?

What parameters?



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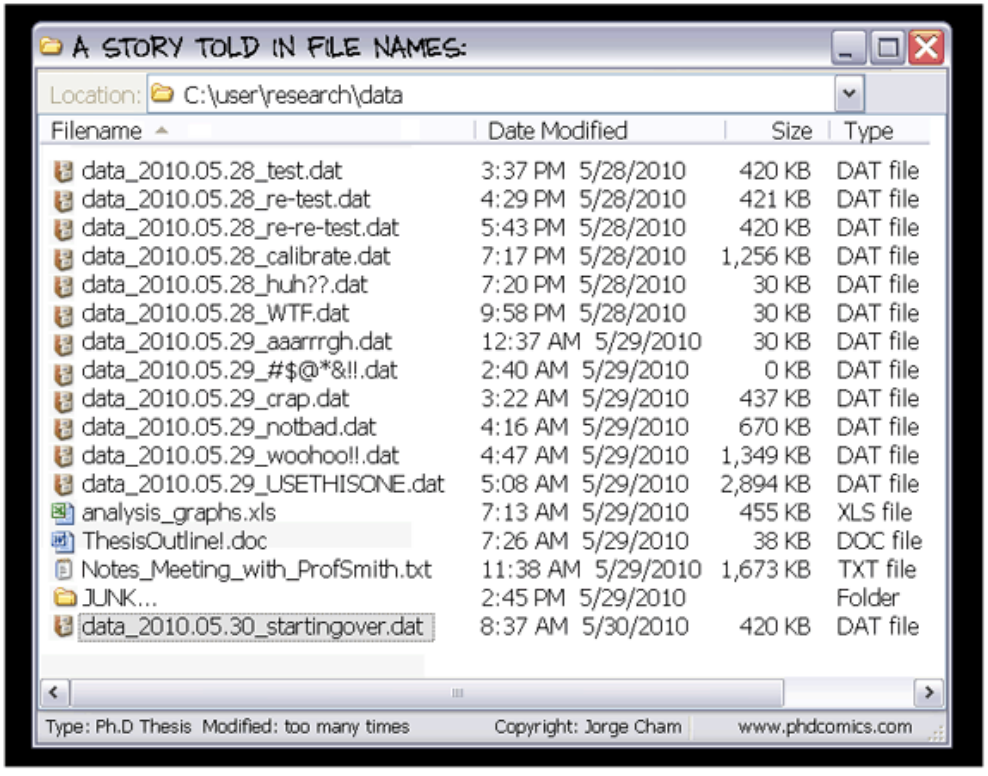

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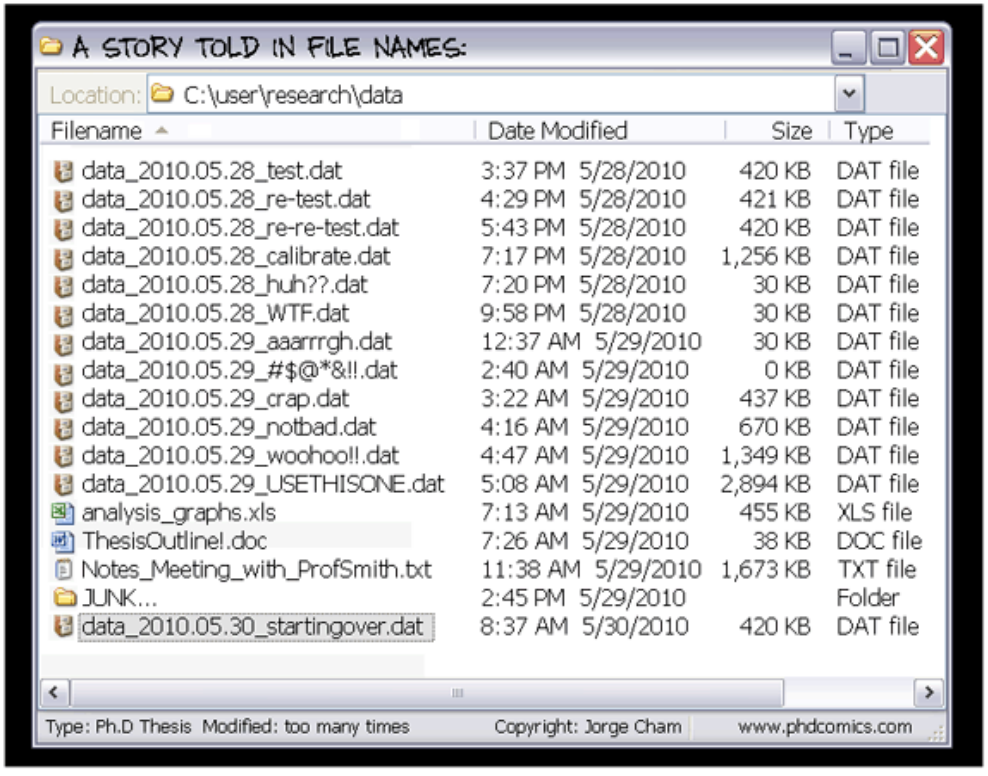

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The problems... ... the solution

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The problems...

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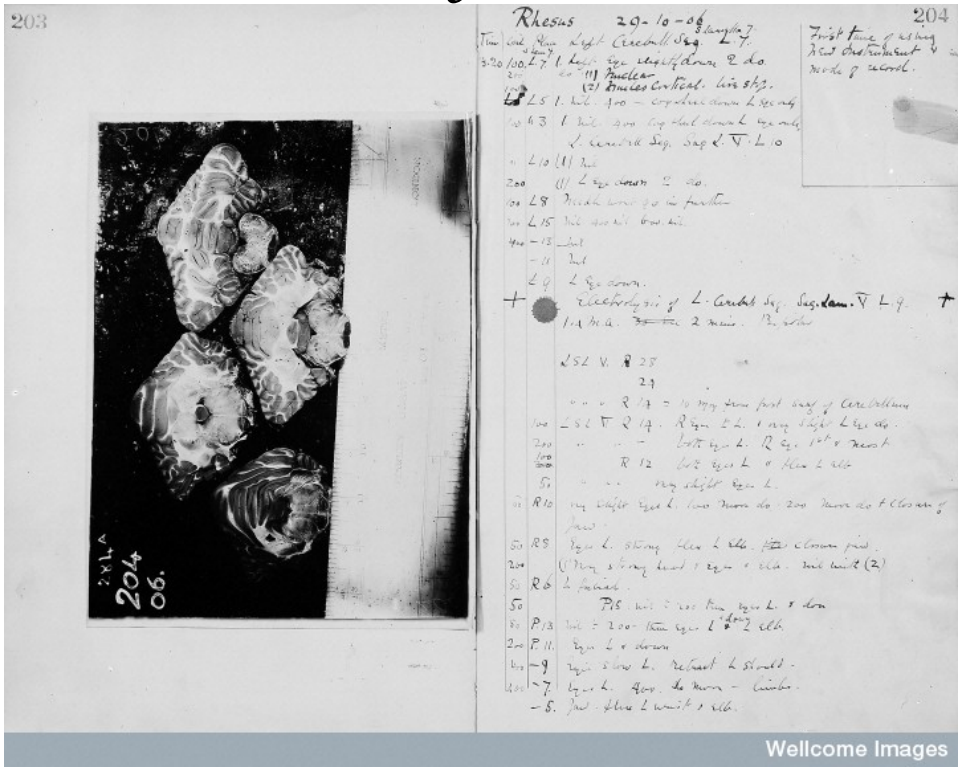
... the solution

laboratory notebook



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The problems...

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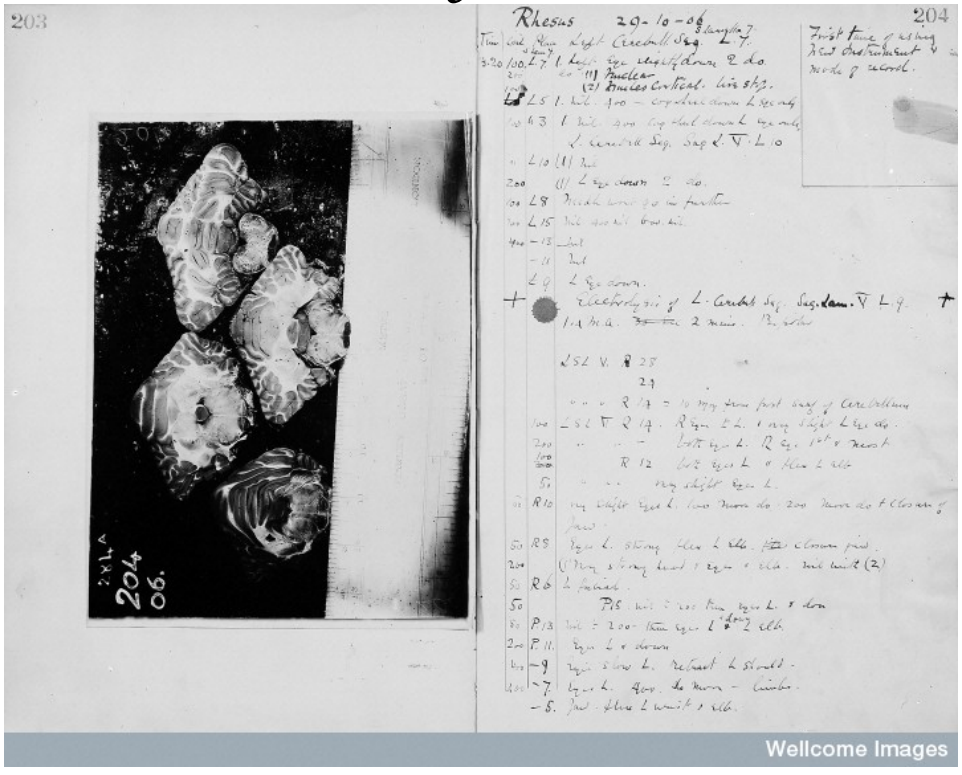
laboratory notebook



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... in traditional, experiment-based research.

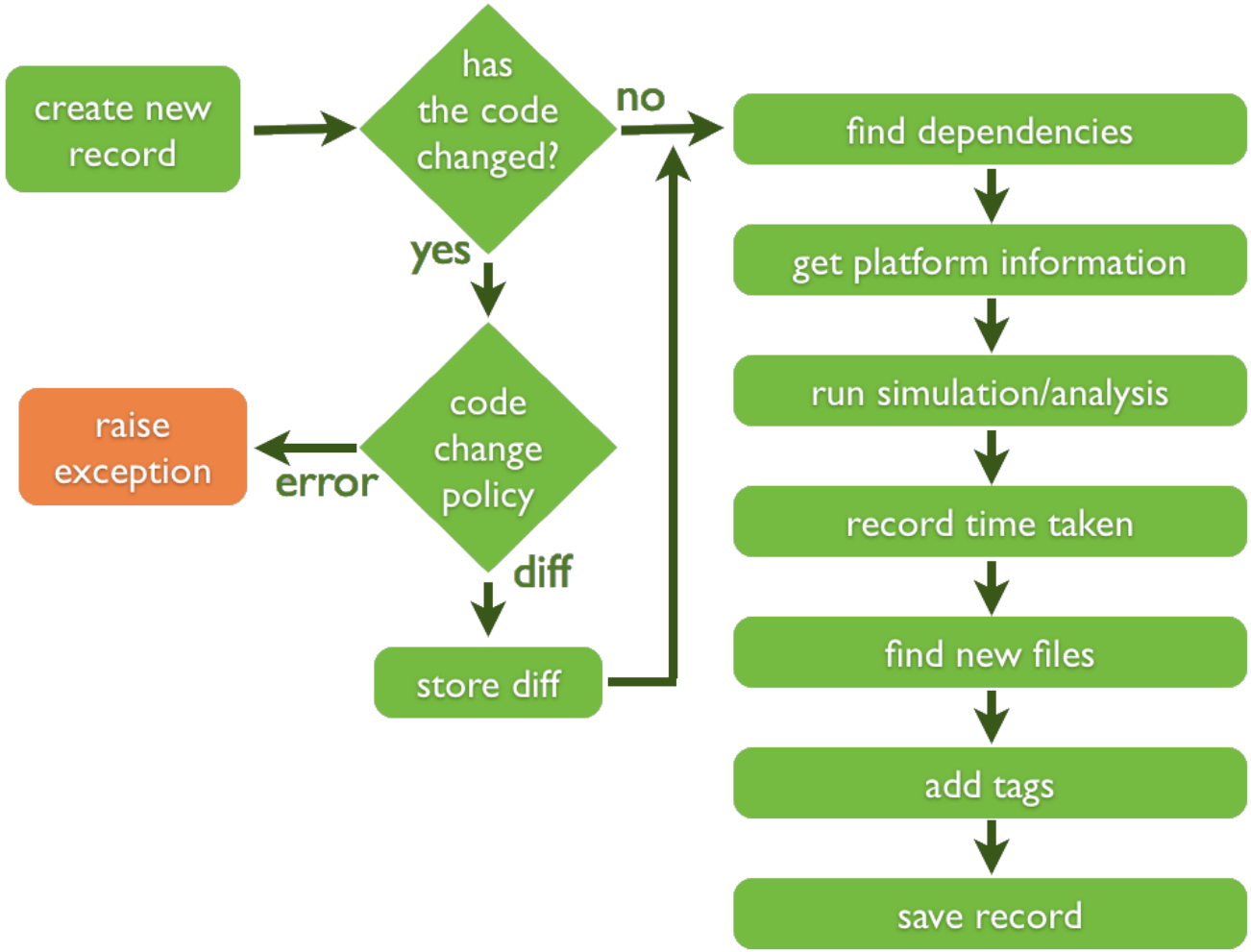
Sumatra - Simulation Management Tool

Sumatra - Simulation Management Tool

"An automated lab notebook for computational projects"

Sumatra - Simulation Management Tool

"An automated lab notebook for computational projects"



Sumatra - Simulation Management Tool

"An automated lab notebook for computational projects"

⇒ assumes that code is under version control

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Sumatra - Simulation Management Tool

"An automated lab notebook for computational projects"

⇒ assumes that code is under version control

⇒ capture information about computation

`smt run`

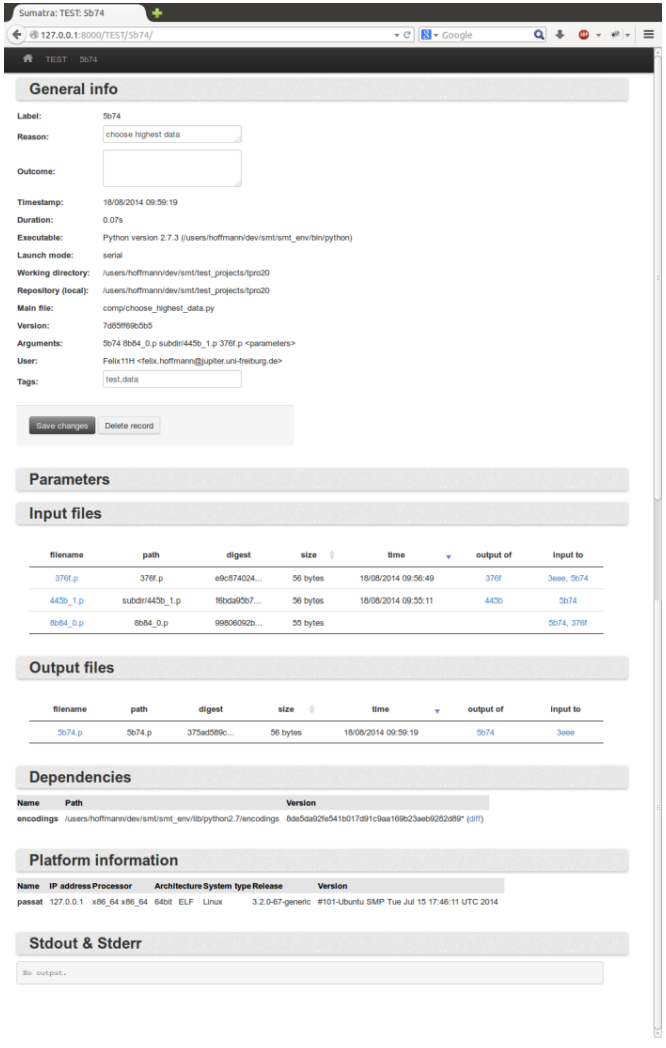
Sumatra - Simulation Management Tool

"An automated lab notebook for computational projects"

⇒ assumes that code is under version control

⇒ capture information about computation

⇒ make the information accessible through a command line and web interface



Sumatra - a tool for Reproducible Research

By capturing

Sumatra - a tool for Reproducible Research

By capturing

- version of the code

Sumatra - a tool for Reproducible Research

By capturing

- version of the code
- input data

Sumatra - a tool for Reproducible Research

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- version of the code
- input data
- output data

Sumatra - a tool for Reproducible Research

By capturing

- version of the code
- input data
- output data
- parameters

Sumatra - a tool for Reproducible Research

By capturing

- version of the code
- input data
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} Full replicability of results

Sumatra - as an Open Science tool

computational research project

Sumatra - as an Open Science tool

computational research project

scientific code

Sumatra - as an Open Science tool

computational research project

input data

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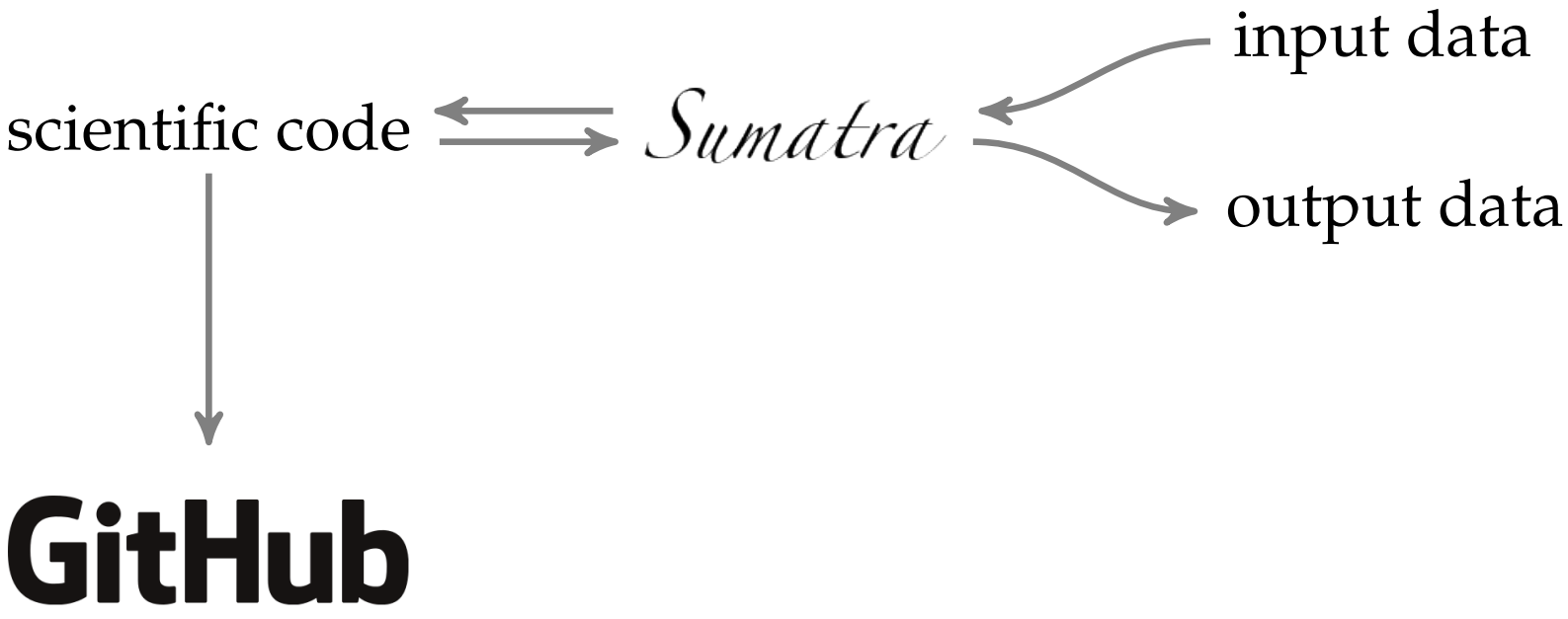
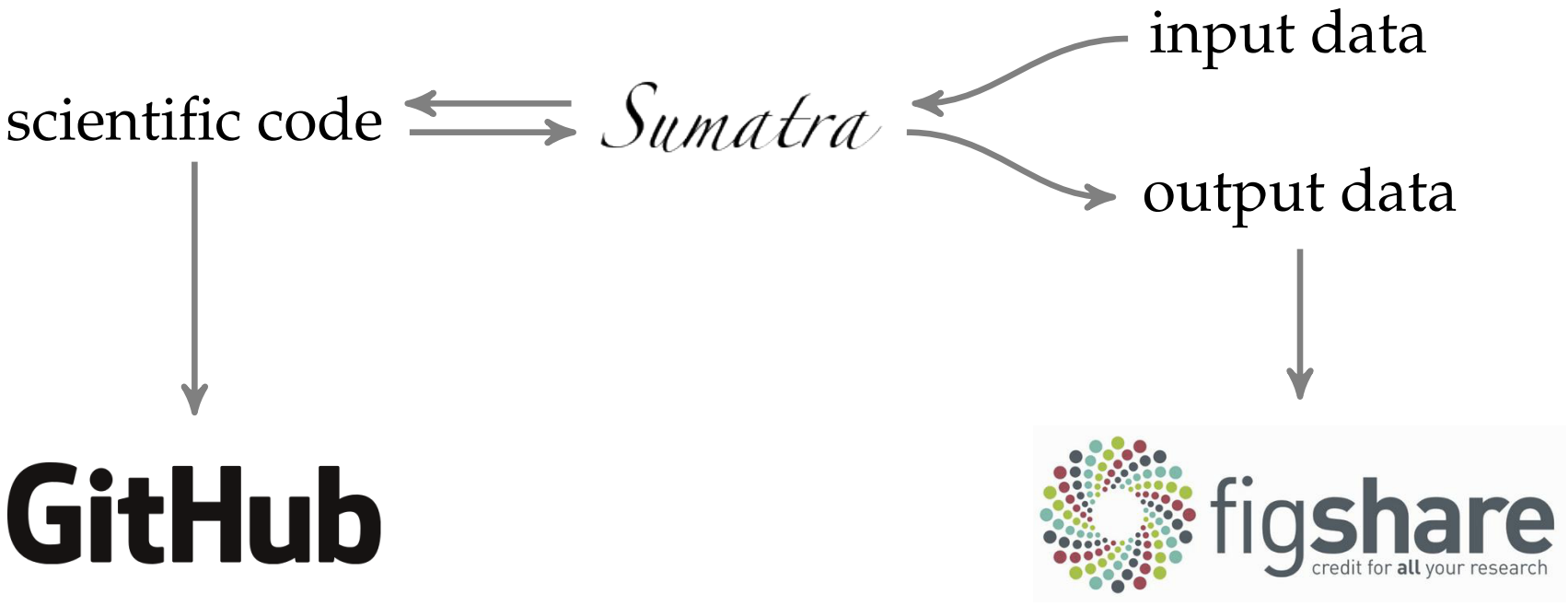


Sumatra - as an Open Science tool

computational research project



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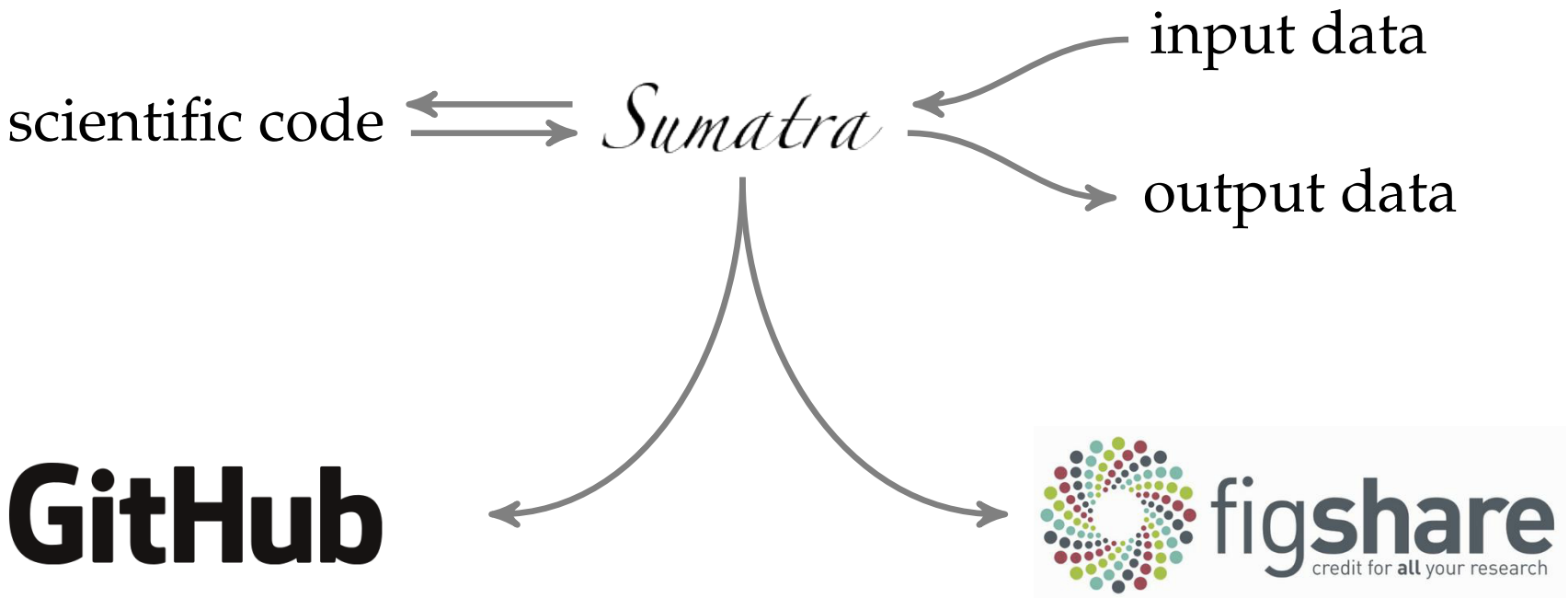

Sumatra - as an Open Science tool

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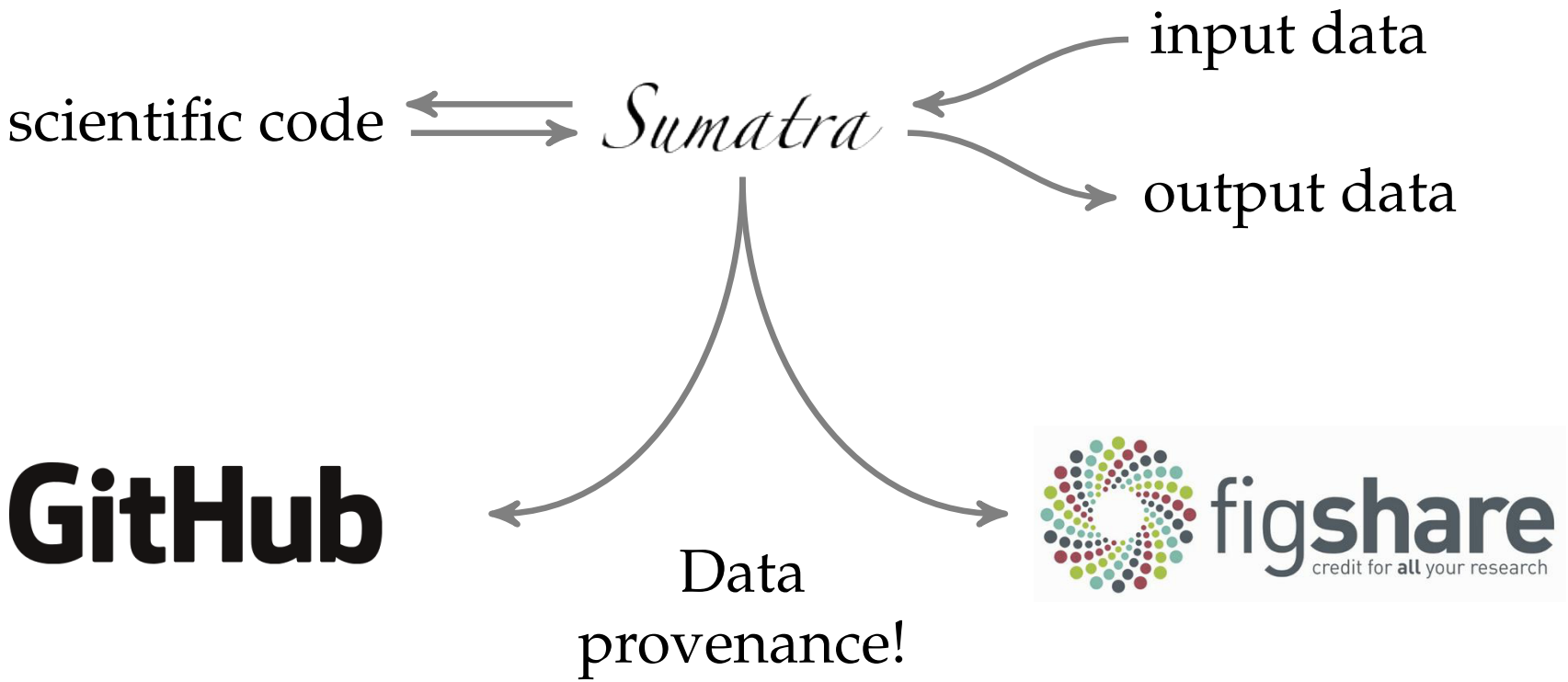

Thank you!

Presenter

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Sumatra Resources

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Getting started:
packages.python.org/Sumatra/

Repository:
bitbucket.org/apdavison/sumatra/

Mailinglist:
tiny.cc/smt-user

Maintainer: Andrew Davison

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