Publishing
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Technologies
○○

Features
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You
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Reproducible Self-Publishing via PythonTeX

Pitch and Reference Slides

[github.com/TheChymera/RepSeP]

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Publish From Code, Openly.

- ▶ Transparency $\longrightarrow$ verifiability
- ▶ Reproducibility $\longrightarrow$ hackability, reusability
- ▶ Version management $\longrightarrow$ sustainability, attribution, e.g. via:
  - ▶ `diff` -ability
  - ▶ `blame` -ability

Publish in a Distributed Model, Free.

- ▶ No external entry barrier $\longrightarrow$ citizen science
- ▶ No institutional bias $\longrightarrow$ free science
- ▶ *Less* publication bias $\longrightarrow$ honest science

Publishing
○○

Technologies
●○

Features
○○○○○○

You
○○○

The tools which make this format amazing.

Publish, in a Presentable Format.

- ▶ Article
- ▶ Poster
- ▶ Slides

("Notebooks" integrate poorly with both presentation and development.)

Publishing
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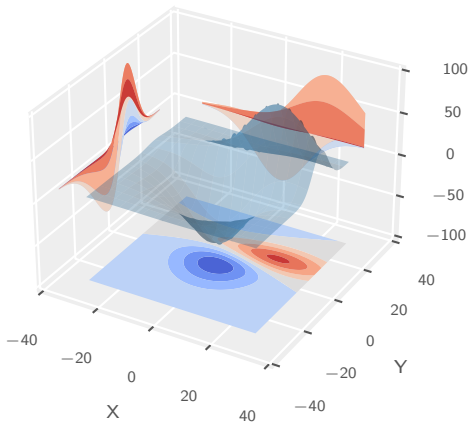
Technologies
○●

Features
○○○○○○

You
○○○

The tools which make this format amazing.

Manage Dependencies for Reliable Reexecution
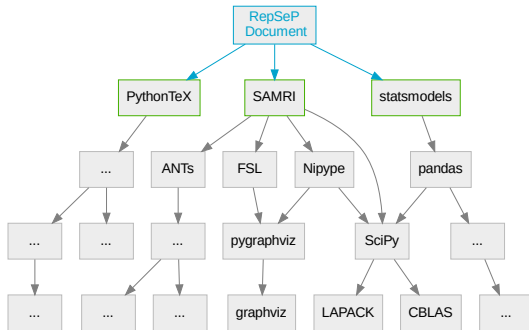
Automated dependency management via Gentoo Linux

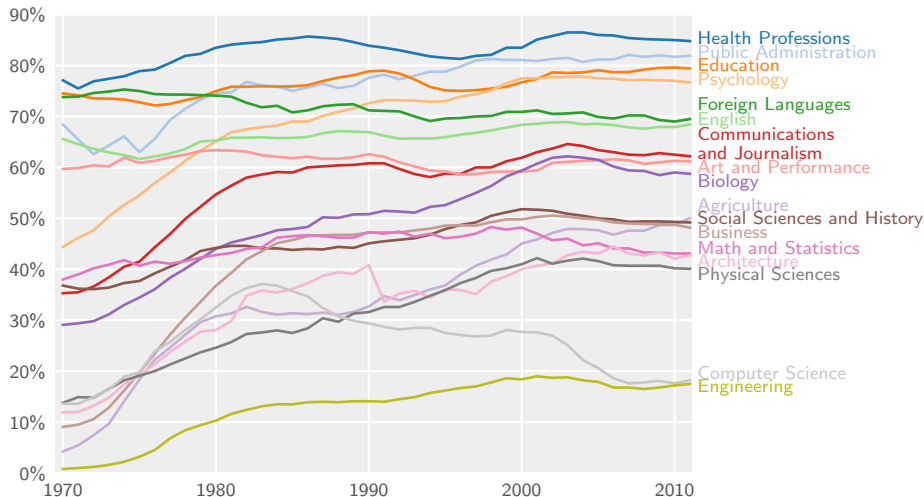▶ Because dependency graphs should never be managed ad hoc.

A 3D plot.

Produced by including:

```
\py{
    pytex_fig('scripts/radar.py',
        label='radar',
        caption='A radar plot.',
        )
    }
```

Publishing
○○

Technologies
○○

Features
○●○○○○○

You
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Create All Graphic Elements Directly from Source.

Percentage of Bachelor's degrees conferred to women in the U.S.A. by major (1970-2011).

Publishing
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Technologies
○○

Features
○○●○○○

You
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Create All Graphic Elements Directly from Source.

And So Much More

Create All Graphic Elements Directly from Source.
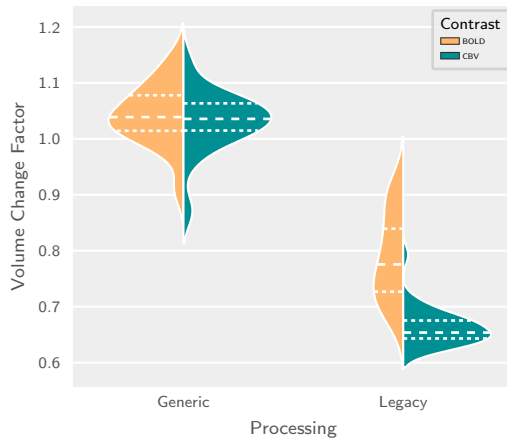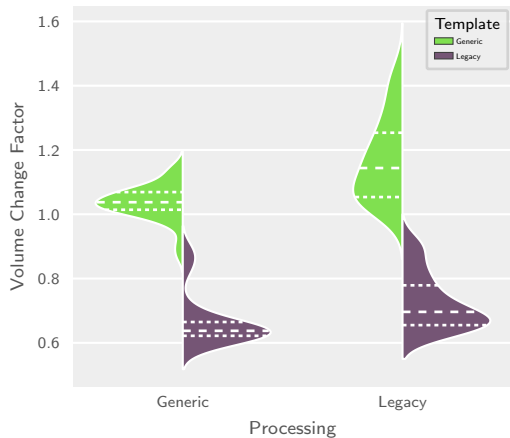
Onset	Duration	Frequency	Pulse Width	Wavelength
[s]	[s]	[Hz]	[s]	[nm]
333.05	20.0	20.0	0.005	488.0
513.05	20.0	20.0	0.005	488.0
693.05	20.0	20.0	0.005	488.0
873.05	20.0	20.0	0.005	488.0
1053.05	20.0	20.0	0.005	488.0

Table: BIDS event file table.

Produced by including:

```
\py{
    pytex_tab('scripts/small_table.py',
        script='scripts/stim_table.py',
        label='sp',
        caption='BIDS event file table.',
        data='data/JogB.tsv',
        options_post='}',
        )
}
```

Sometimes Less is More

$$F_{1,268} = 10.97,\ p = 0.0011$$

Produced by including:

```
\py{
    pytex_printonly('scripts/drs_activityANOVA.py')
    }
```

But Sometimes You Just Want More

- ▶ Processing Factor: $F_{1,268} = 72.8$, $p = 1.07 \times 10^{-15}$
- ▶ Template Factor: $F_{1,268} = 1333$, $p = 5.13 \times 10^{-106}$
- ▶ Processing:Template Intearction: $F_{1,268} = 10.97$, $p = 0.0011$

Produced by including, e.g.:

```
\py{
    boilerplate.fstatistic('Processing:Template', condensed=True)
    }
```

Publishing
○○

Technologies
○○

Features
○○○○○○

You
●○○

How You Can Benefit from This Right Now.

Help Test the Format

- ▶ Get help harnessing the power of reproducible documents for your own work.
- ▶ Already tested for three neuroimaging research articles — but does it work for you?

Co-Author the Reference Implementation

▶ The `article.tex` reference document is still in early draft.
▶ You can contribute, fork, and publish it together with us.

Co-Found a Valuable Service for the Modern Research Environment

▶ Powerful technologies should be provided as services.
▶ Discuss and join a publishing platform in its early stages.