

From reproducibility to interactivity:



to



Mine Çetinkaya-Rundel



rstudio.io/repro-to-interact

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more than **70** percent

have tried and **failed** to reproduce
another scientist's experiments

more than **50** percent

have tried and **failed** to reproduce
their **own** experiments

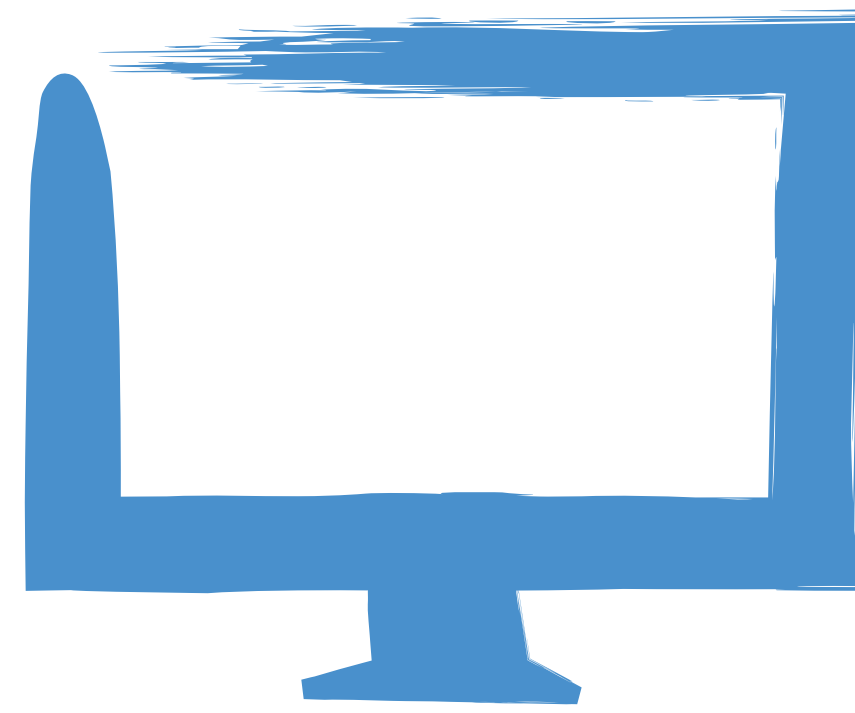
Google Scholar yields

131

results containing the term **reproducibility crisis**
just in **2020**

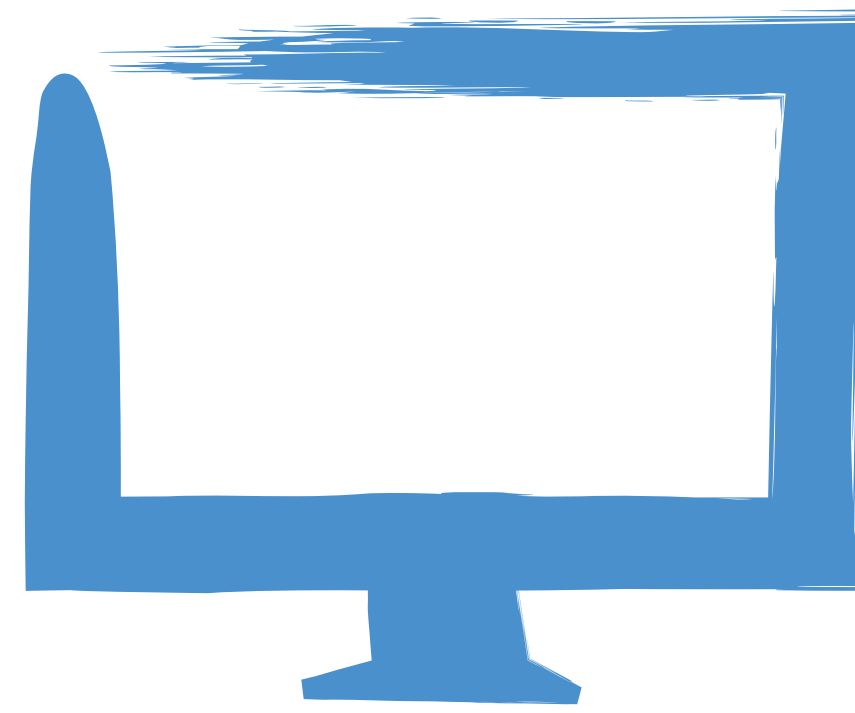
R Markdown

```
> 01-interactivity-in-r/01-rmd.Rmd
```



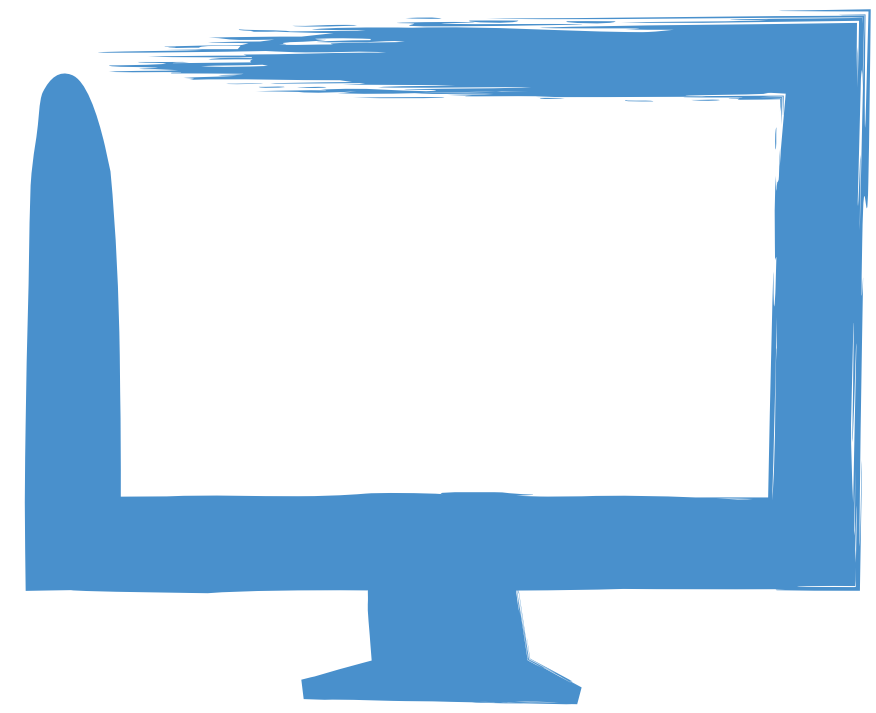
R Markdown + parameters

```
> 01-interactivity-in-r/02-rmd-with-parameters.Rmd
```



R Markdown + htmlwidgets

```
> 01-interactivity-in-r/03-rmd-with-htmlwidget.Rmd
```



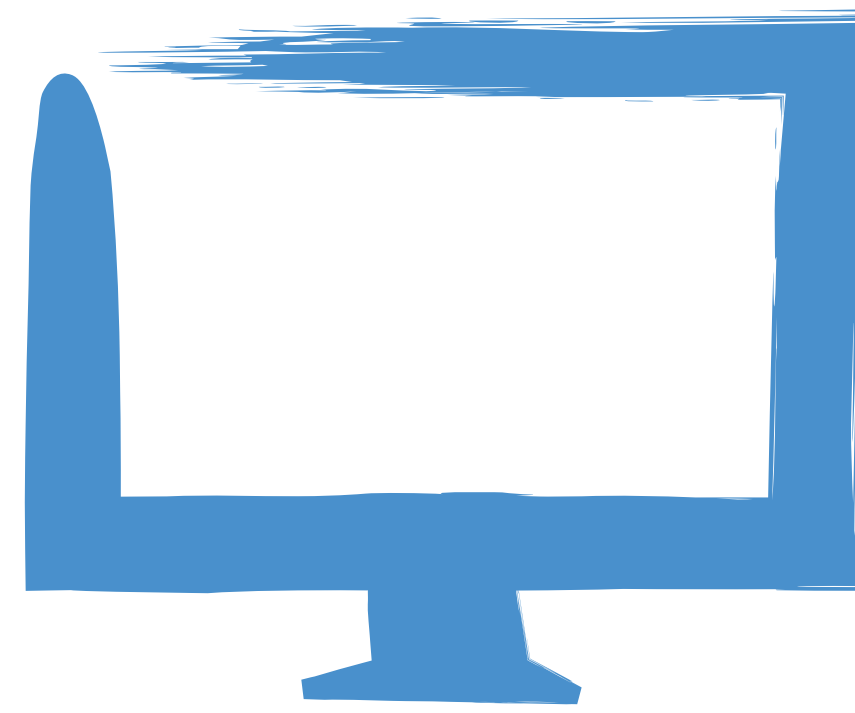
R Markdown + Shiny

```
> 01-interactivity-in-r/04-rmd-with-shiny.Rmd
```



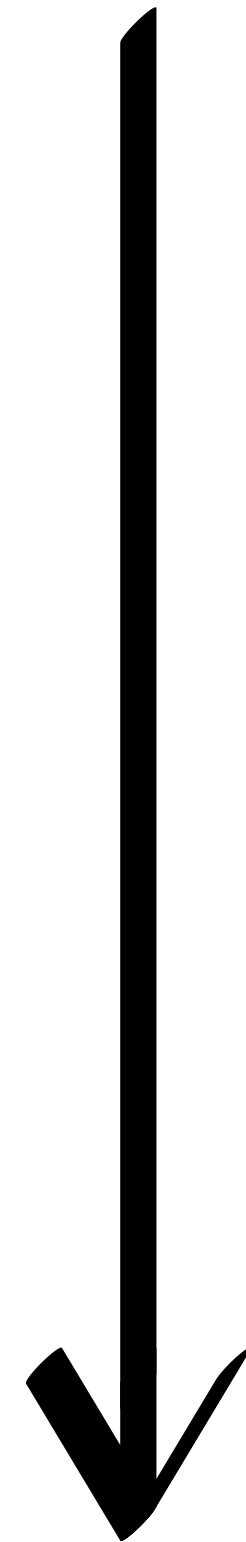
Flexdashboard + Shiny

```
> 01-interactivity-in-r/05-rmd-dashboard-with-shiny.Rmd
```



Ladder of interactivity

*More
interactive*



.Rmd

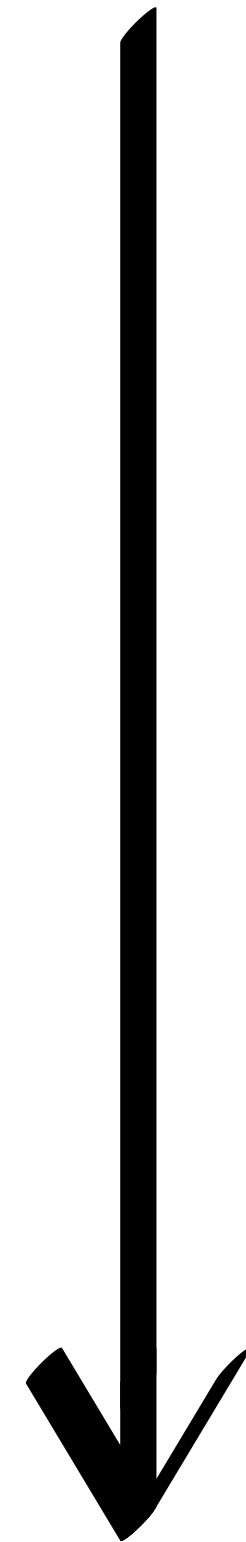
.Rmd with parameters

.Rmd with htmlwidgets

.Rmd with Shiny components

Shiny app

More
complicated



.Rmd

.Rmd with parameters

.Rmd with htmlwidgets

.Rmd with Shiny components

Shiny app

.Rmd

.Rmd with parameters

.Rmd with htmlwidgets

.Rmd with Shiny components

Shiny app

*Change the data more
than once per session?*

.Rmd

.Rmd with parameters

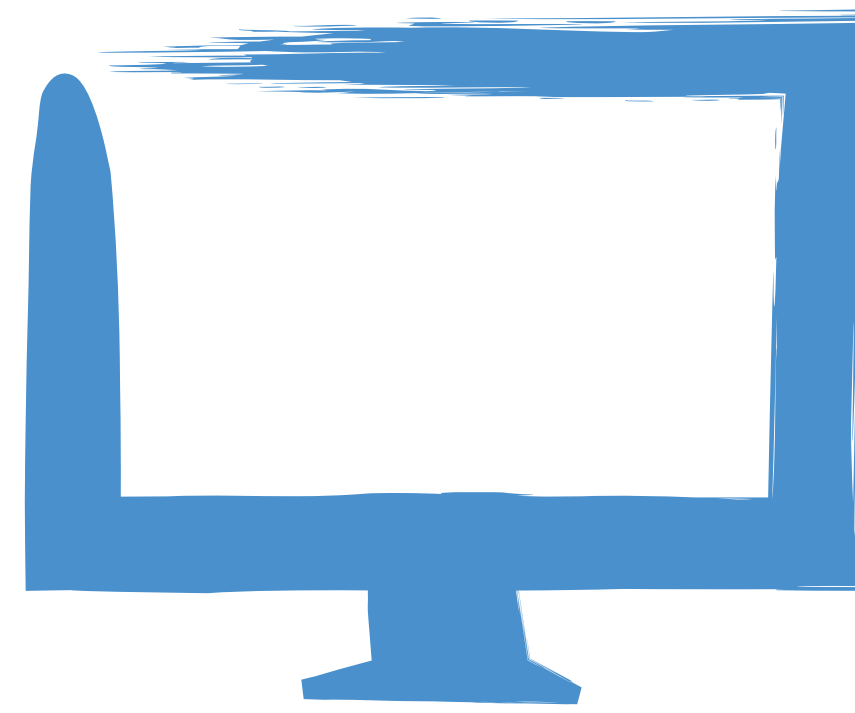
.Rmd with htmlwidgets

.Rmd with Shiny components

Shiny app

Need more than
a document or
dashboard?

- ▶ Open **06-shiny-to-param-rmd.R**, run the app, observe its functionality.
- ▶ Now open **07-shiny-to-param-rmd.Rmd** and fill in the blanks to convert the app to a parametrised R Markdown document.
- ▶ View **08-shiny-to-param-rmd.Rmd** for slightly more extended features.



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