Quarto

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Introduction

Quarto is an open-source publishing system based on pandoc with focus on scientific writing.

tl/dr: jupyter notebooks ⇒ scientific document

Features

Output types

- Write in markdown, render to various output formats. Including:
  - html
  - pdf (using pdflatex, luatex, wkhtmltopdf, …)
  - presentations (Powerpoint, revealjs, Beamer)
  - Word
  - Markdown
  - …

Equations

LaTeX-style equation syntax is fully supported. Inline $\alpha = \frac{1}{137}$ or display math:

$$E = mc^2$$

For HTML outputs, rendered e.g. using mathjax, katex, mathml, …

Computations

Quarto allows integrates jupyter to support computation using essentially all languages that are supported by jupyter (python, julia, R, …). It allows allows for interactive content produces by various interactivity libraries.

This will show only in the PDF output.

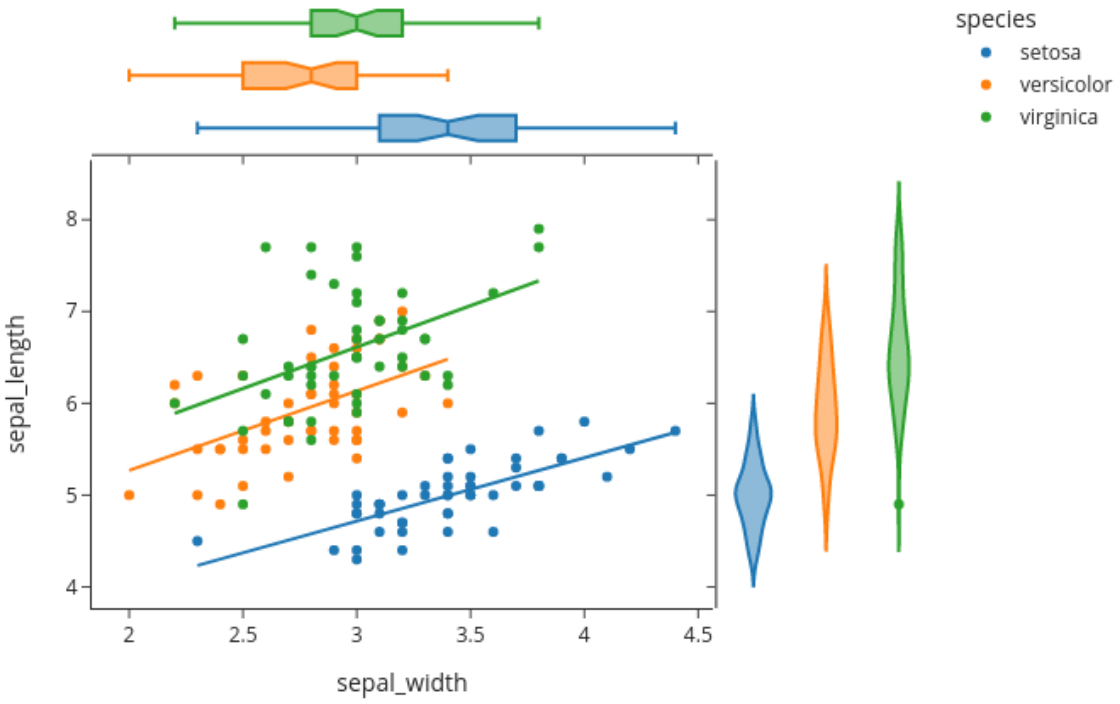

Figure 1: Static plot using plotly

Publishing

Quarto includes convenience functions to publish documents to various targets. Most interesting for us is github pages:

```
quarto publish gh-pages
```

Citations

Citation from *.bib files is fully supported. Our[1] favorite paper[2]

Collaborative Writing

No builtin collaborative writing support. Can use of course use github, or any other tool that allows collaboration on text documents. However, convenient integration of annotation tools like hypothes.is, giscus or utterances. (Here using hypothes.is)

Applications in IceCube

- Technical Reports
- "Analysis Wikis"
- Approved Plots (no need to use webplotdigitizer..)
- Papers??

References

1. Adrián-Martínez, S. *et al.* Letter of intent for KM3NeT 2.0. *Journal of Physics G: Nuclear and Particle Physics* **43**, 084001 (2016).
2. Aartsen, M. G. *et al.* The IceCube Neutrino Observatory: instrumentation and online systems. *Journal of Instrumentation* **12**, P03012 (2017).

[1] Or do you prefer[1]?