ANU Report Template

via Quarto

OPTIONAL CATEGORY LABELS TECHNICAL REPORT SERIES

This report template is available at github.com/anuopensci/quarto-anu-report.

AUTHORS

Bill Gates
Bill & Melinda Gates Foundation
✉ bill@gates.com
🆔 0000-0003-1689-0557

Ronald Fisher
Frequentist Statistics Institute
Australian National University
✉ ronald@anu.edu.au

Prof. Florence Nightingale
Research School of Visualiation
Australian National University
✉ florence@anu.edu.au

Chat GPT
OpenAI

EXECUTIVE SUMMARY

The report delineates key principles, such as version control and data sharing, and introduces practical tools like RMarkdown, Jupyter Notebooks, and Docker. Reproducible research significantly boosts the credibility of scientific findings, fostering collaboration, iterative improvements, and efficient communication. The document addresses challenges like data privacy and infrastructure constraints, proposing solutions such as anonymization and institutional support. Recognizing the transformative impact of reproducibility, the report concludes that its adoption contributes to building a culture of transparency and accountability in scientific endeavors, laying the groundwork for a more robust foundation in advancing knowledge. Recommendations include providing training resources, support infrastructure, and guidelines to facilitate the integration of reproducible research practices into standard workflows.

Table of contents

Introduction

Reproducible research is an essential paradigm that promotes the idea that scientific investigations should be transparent, verifiable, and accessible to others. In an era where the scientific community faces concerns about the replicability of research findings, adopting reproducible research practices becomes imperative.

This document uses Allaire (2023).

Key Benefits of Reproducible Research

- *Increased Credibility*: Transparent and reproducible research enhances the credibility of scientific findings, as others can independently verify and validate the results.
- *Collaboration and Iteration*: Open sharing of code and data facilitates collaboration among researchers and allows for the iterative improvement of studies over time.
- *Efficient Communication*: Reproducible research documents serve as comprehensive and self-contained artifacts, aiding in effective communication of methodologies and results.

Method

Getting started

1. Install Quarto.
2. You may need to install Public Sans font if you do not have it. You can find it here.
3. The easiest way to edit and render the document is using the RStudio IDE. If you prefer not to install R, then you can use VS Code instead.
4. From the Terminal run the following command

```
quarto use template anuopensci/quarto-anu-report
```

Conclusion

This report underscores the transformative impact of reproducible research on the scientific landscape, promoting a commitment to openness and accountability for the benefit of the entire research community.

References

Allaire, JJ. 2023. *Quarto: R Interface to 'Quarto' Markdown Publishing System*. https://CRAN.R-project.org/package=quarto.