The Turing Way Community: your guide to reproducible research

18 November 2021

Esther Plomp

10.5281/zenodo.5675926 CC-BY 4.0, The Turing Way, based on a larger slidedeck available here: http://zenodo.org/record/5654766

Esther Plomp

She/her

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- Open Science enthusiast
- Core contributor @ Turing Way

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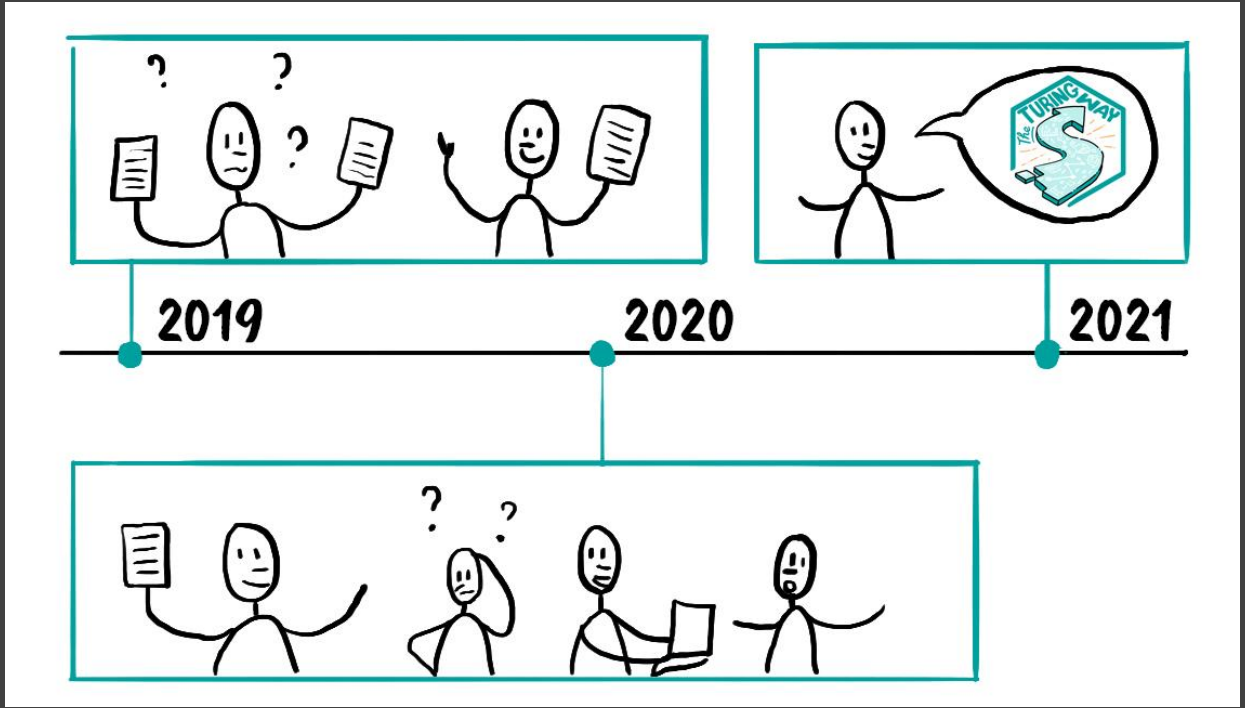
Esther - ReproHack Nov 2019 / May 2020



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The Turing Way

An Open Source project, handbook, community & collaboration

We involve and supports a **diverse community** to make **data science** reproducible, ethical, collaborative and **inclusive for everyone**.

@turingway, CC-BY 4.0, The Turing Way, DOI: 10.5281/zenodo.3233853

A note on the name

- We are creating guidance together, the way is a journey not a set of rules
- It's not a Turing only project

https://www.turing.ac.uk/research/impact-stories/changing-culture-data-science

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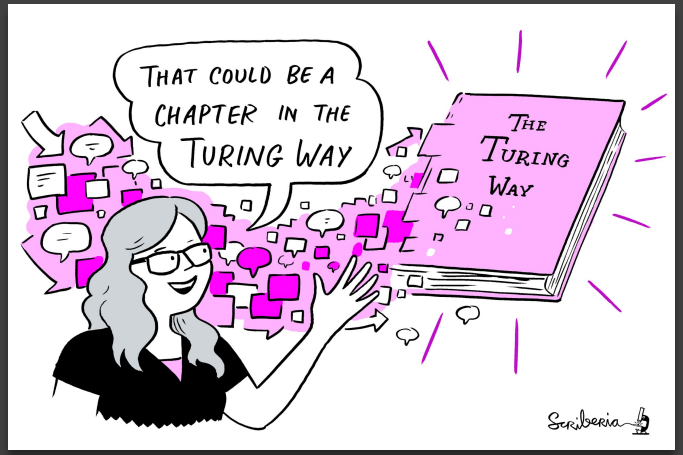
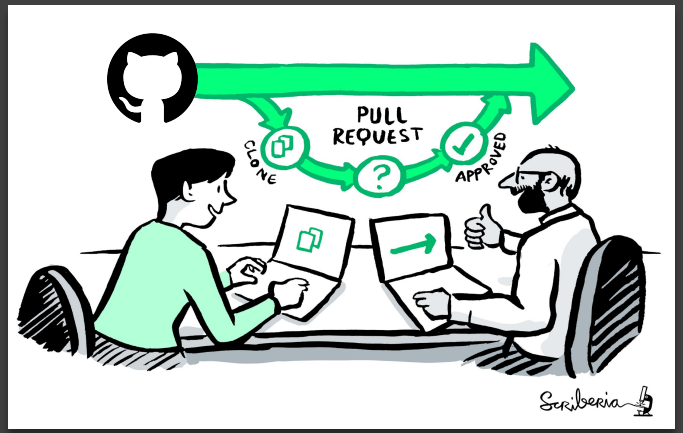
The Turing Way

A Book

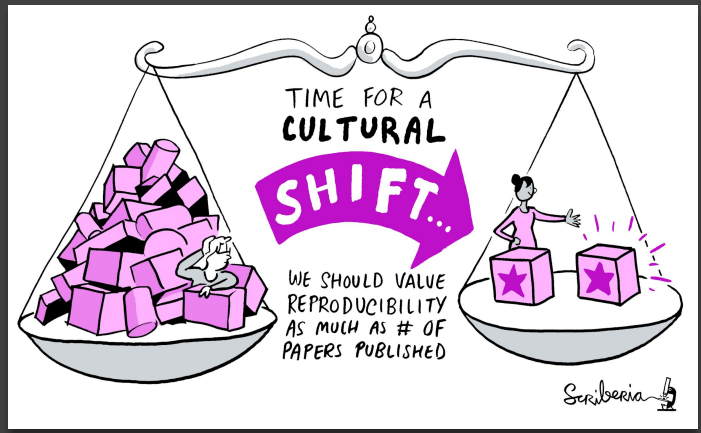


A Community

An Open Source Project



A Culture of Collaboration



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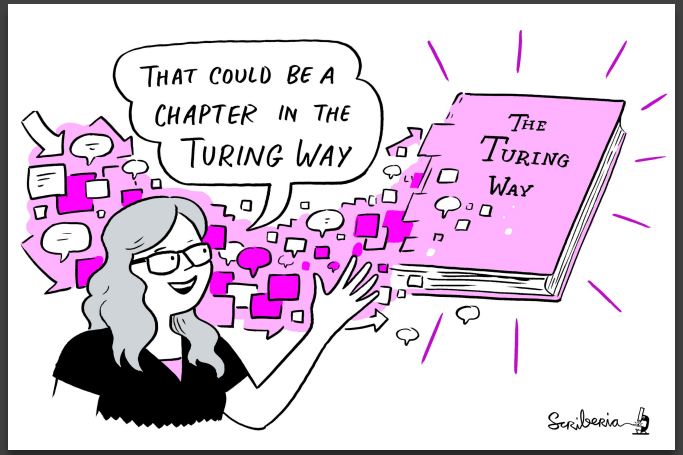
A Book



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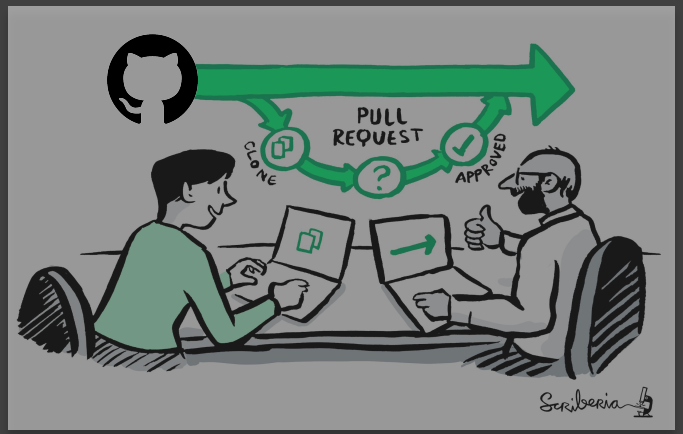


A Culture of Collaboration

The Turing Way

Search this book...

Welcome

Guide for Reproducible Research

Guide for Project Design

Guide for Communication

Guide for Collaboration

Guide for Ethical Research

Community Handbook

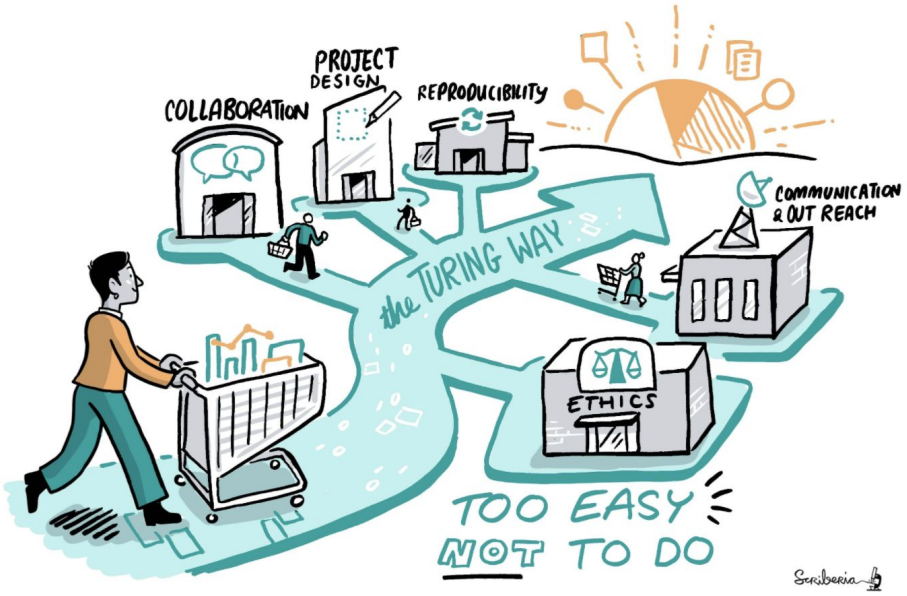
Afterword

The Turing Way is an open source community-driven guide to reproducible, ethical, inclusive and collaborative data science.

Our goal is to provide all the information that data scientists in academia, industry, government and the third sector need at the start of their projects to ensure that they are easy to reproduce and reuse at the end.

The book started as a guide for reproducibility, covering version control, testing, and continuous integration. However, technical skills are just one aspect of making data science research "open for all".

In February 2020, *The Turing Way* expanded to a series of books covering reproducible research, project design, communication, collaboration, and ethical research.



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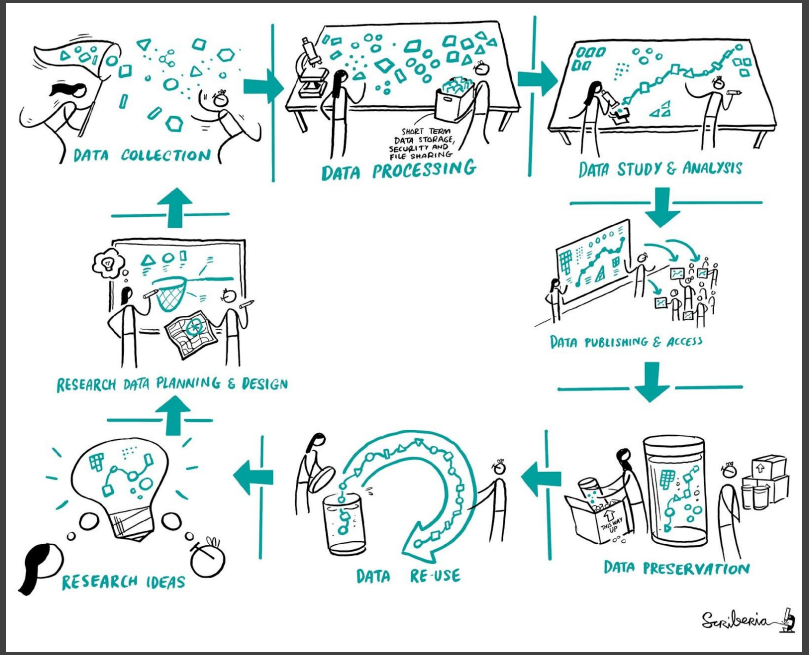
Started as a book on reproducibility

Same analysis steps on the same dataset produces same answer

This process is overwhelming.



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- Overview
- Open Research
- Version Control
- Licensing
- Research Data Management
- Reproducible Environments
- BinderHub
- Code quality
- Code Testing
- Code Reviewing Process
- Continuous Integration (CI)
- Reproducible Research with Make
- Research Compendia
- Risk Assessment
- Case Studies

Guide for Reproducible Research

This guide covers topics related to skills, tools and best practices for research reproducibility.

The Turing Way defines reproducibility in data research as data and code being available to fully rerun the analysis.

There are several definitions of reproducibility in use, and we discuss these in more detail in the Definitions section of this chapter. While it is absolutely fine for us each to use different words, it will be useful for you to know how *The Turing Way* defines *reproducibility* to avoid misunderstandings when reading the rest of the handbook.

https://the-turing-way.netlify.app/reproducible-research/reproducible-research.html

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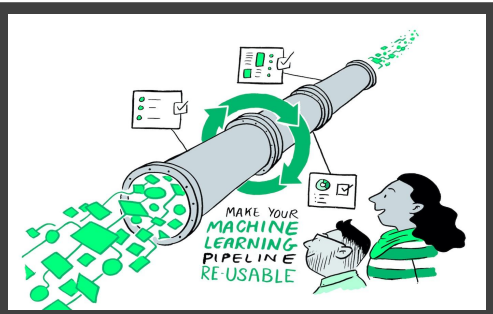
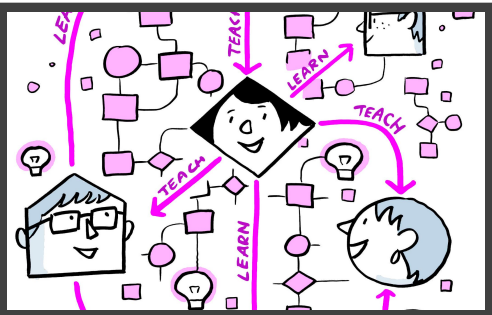
The Turing Way Guides

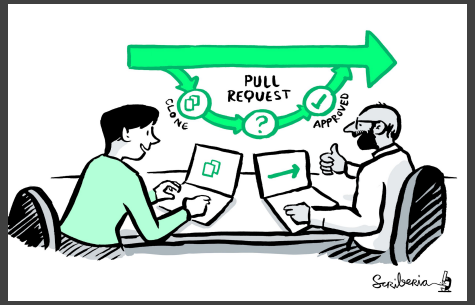


Reproducibility

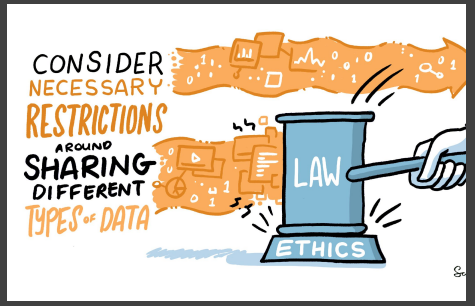
Project Design



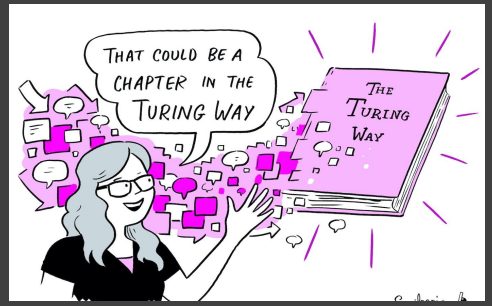
Communication



Collaboration



Ethical Research



Community Handbook

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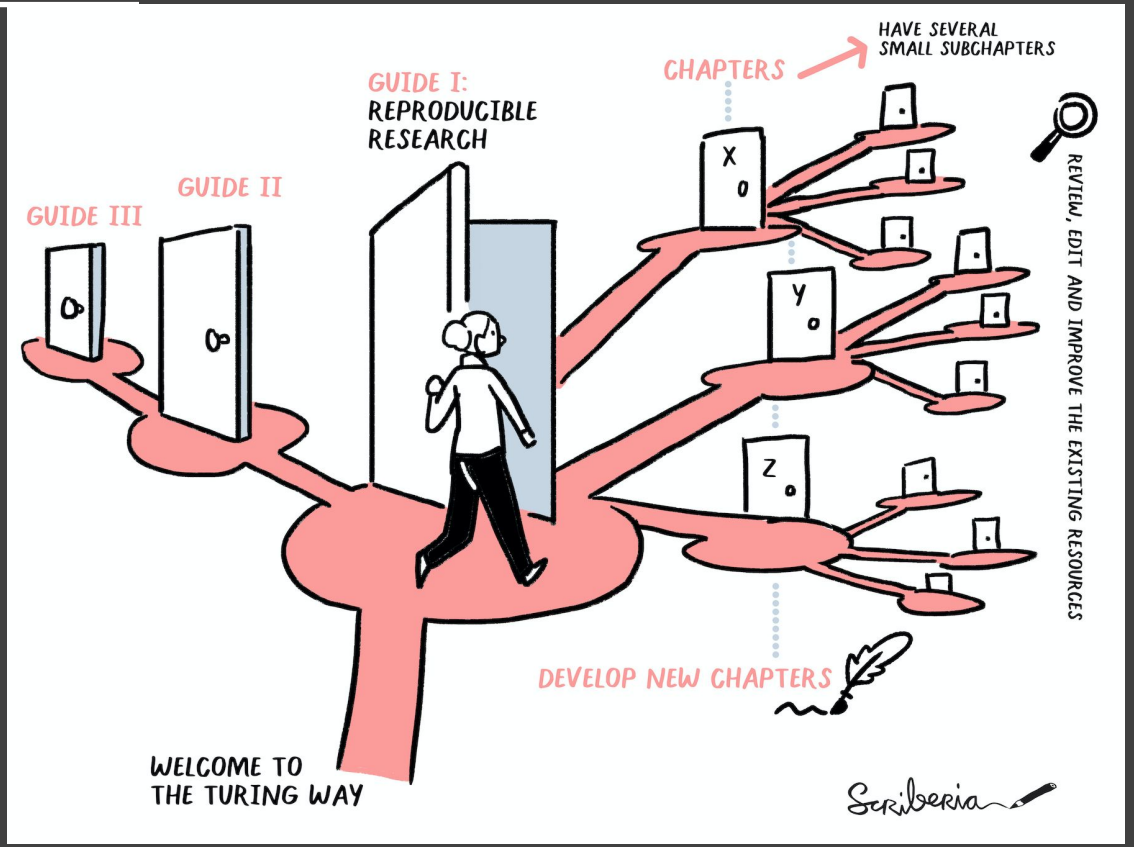
Book's Structure

Chapters with short modular subchapters (200!).

Don't reinvent what is already out there - highlight them!



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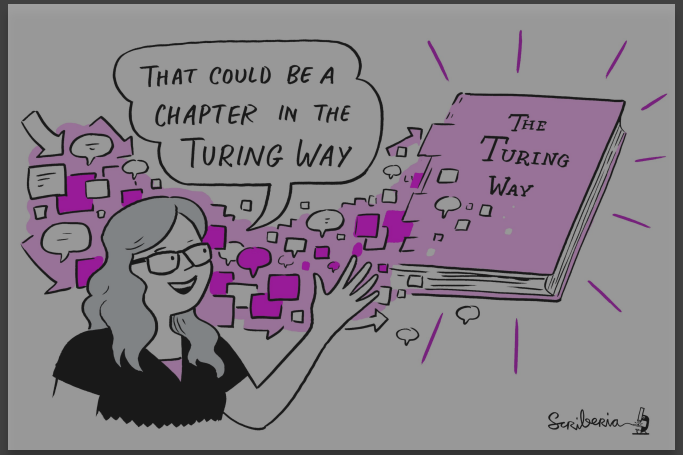
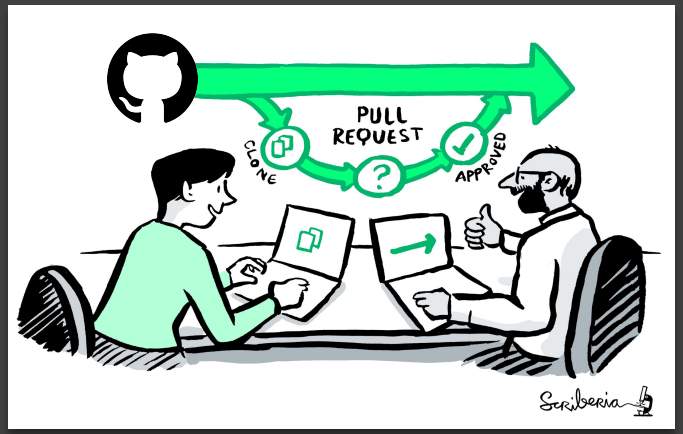
A Book



A Community

An Open Source Project



A Culture of Collaboration

Open Source Project

- Everyone can freely read, reuse, distribute, modify and develop.
- The project belongs to *The Turing Way* community.
- Built on open source infrastructure:

  Git, Jupyter Book, Binder, Netlify: the-turing-way.netlify.app/welcome

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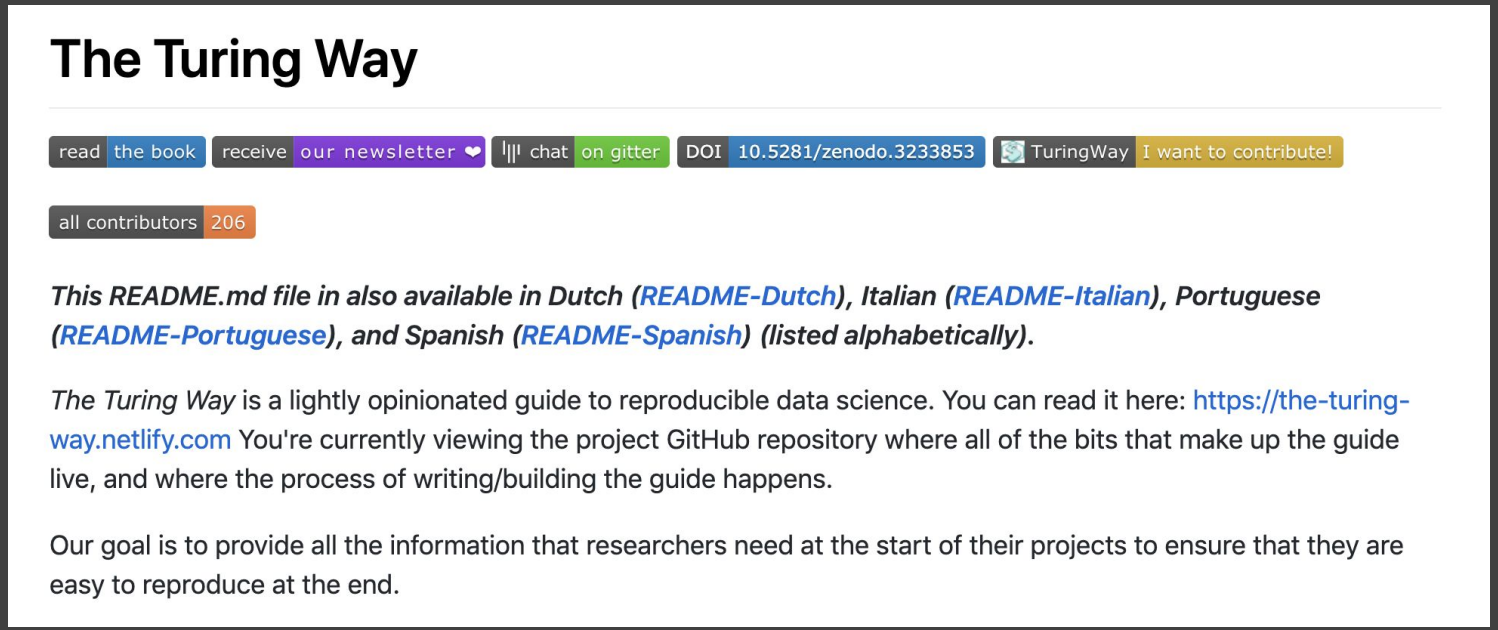
Contributions via GitHub

https://github.com/alan-turing-institute/the-turing-way



The Turing Way

read the book | receive our newsletter ❤ | chat on gitter | DOI 10.5281/zenodo.3233853 | TuringWay I want to contribute!

all contributors 206

This README.md file in also available in Dutch (README-Dutch), Italian (README-Italian), Portuguese (README-Portuguese), and Spanish (README-Spanish) (listed alphabetically).

The Turing Way is a lightly opinionated guide to reproducible data science. You can read it here: https://the-turing-way.netlify.com You're currently viewing the project GitHub repository where all of the bits that make up the guide live, and where the process of writing/building the guide happens.

Our goal is to provide all the information that researchers need at the start of their projects to ensure that they are easy to reproduce at the end.

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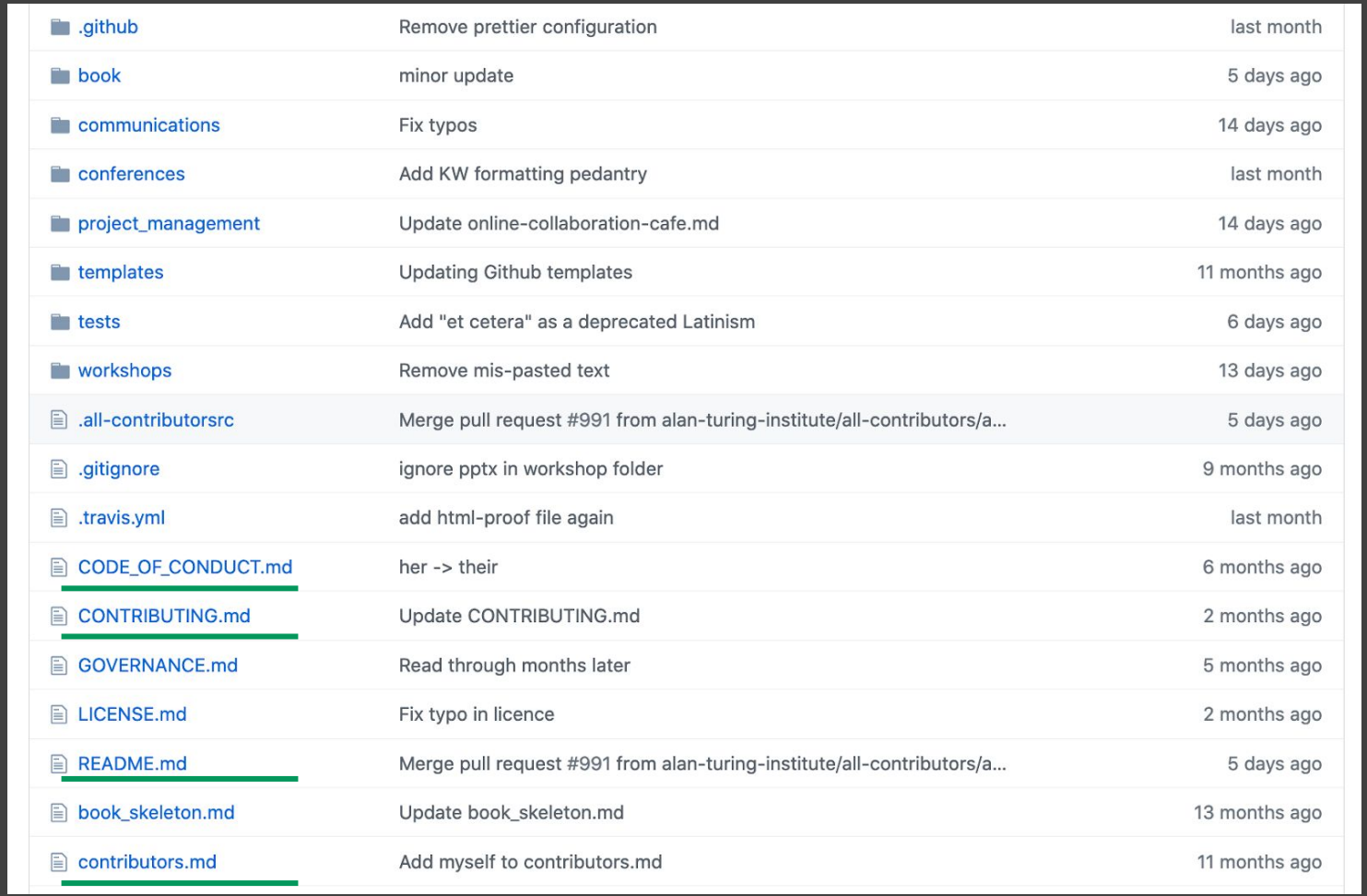

.github	Remove prettier configuration	last month
book	minor update	5 days ago
communications	Fix typos	14 days ago
conferences	Add KW formatting pedantry	last month
project_management	Update online-collaboration-cafe.md	14 days ago
templates	Updating Github templates	11 months ago
tests	Add "et cetera" as a deprecated Latinism	6 days ago
workshops	Remove mis-pasted text	13 days ago
.all-contributorsrc	Merge pull request #991 from alan-turing-institute/all-contributors/a...	5 days ago
.gitignore	ignore pptx in workshop folder	9 months ago
.travis.yml	add html-proof file again	last month
CODE_OF_CONDUCT.md	her -> their	6 months ago
CONTRIBUTING.md	Update CONTRIBUTING.md	2 months ago
GOVERNANCE.md	Read through months later	5 months ago
LICENSE.md	Fix typo in licence	2 months ago
README.md	Merge pull request #991 from alan-turing-institute/all-contributors/a...	5 days ago
book_skeleton.md	Update book_skeleton.md	13 months ago
contributors.md	Add myself to contributors.md	11 months ago

GitHub:
https://github.com/alan-turing-institute/the-turing-way

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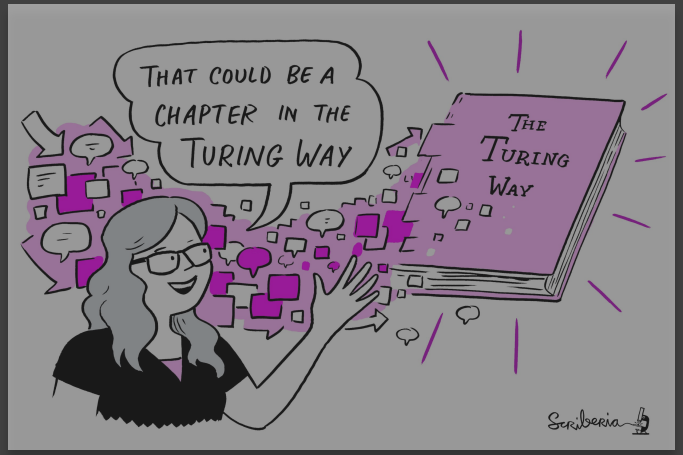
A Book



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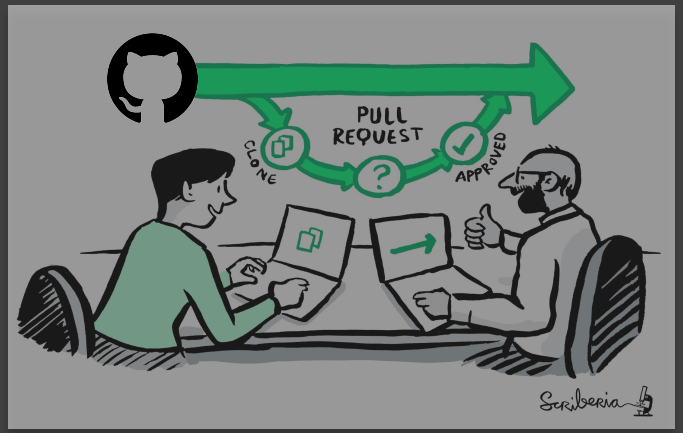
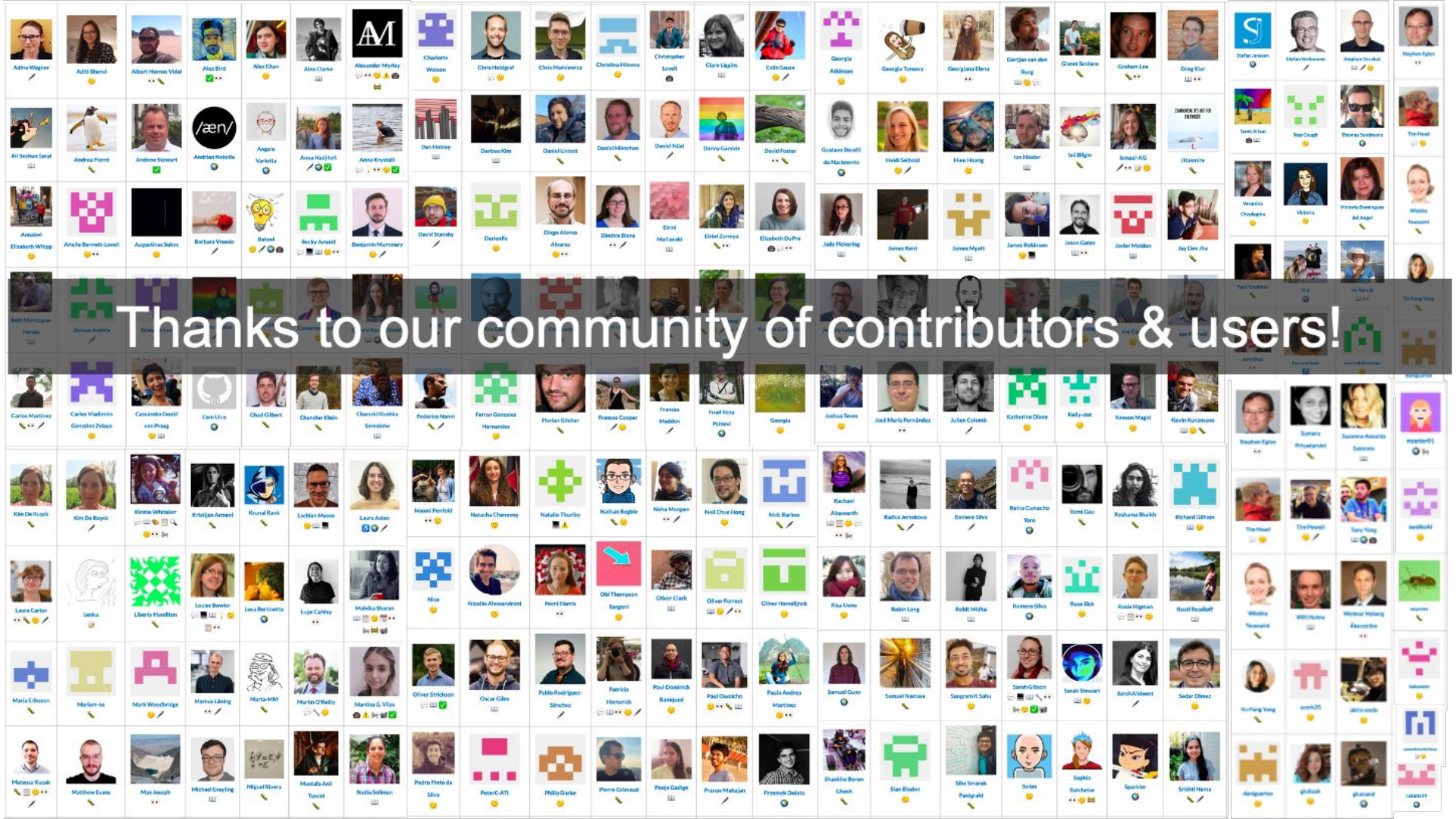


A Culture of Collaboration


Thanks to our community of contributors & users!

Meeting where you are!

I. Connect with others

II. Learn a new skill

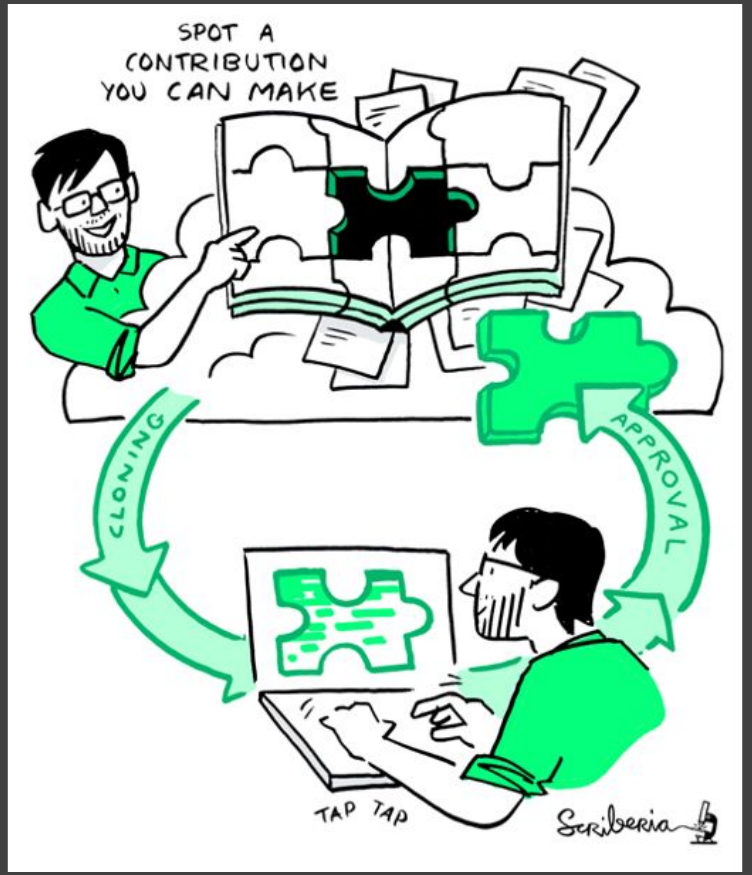
III. Share your skills

IV. Discuss ideas & collaborate

V. Mentor others' contributions

VI. Represent this community

We value your participation!



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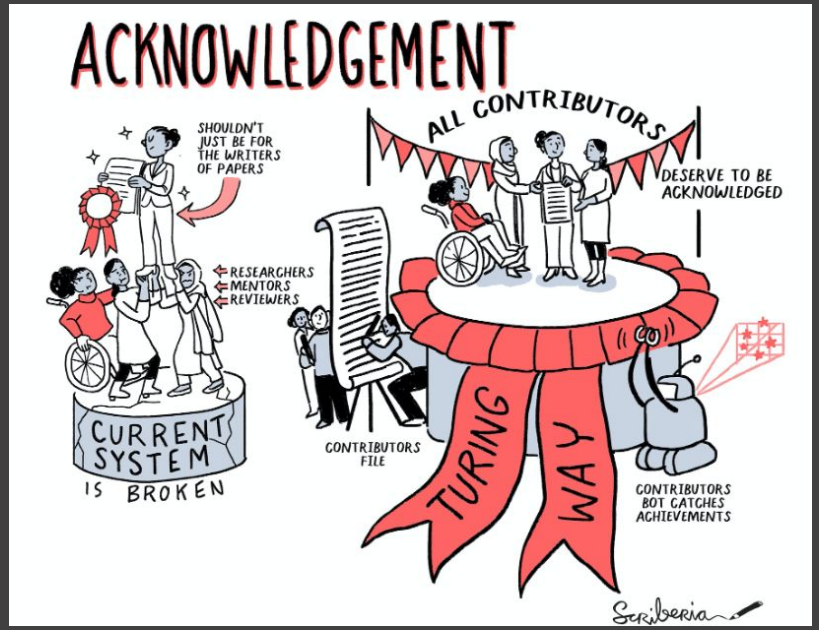
Acknowledging your work

- All-contributors bot to add your name to the README.md
- Adding your personal highlights and impact story in contributors.md
- Published on the afterword of online Contributors Record

https://the-turing-way.netlify.app/afterword/contributors-record.html



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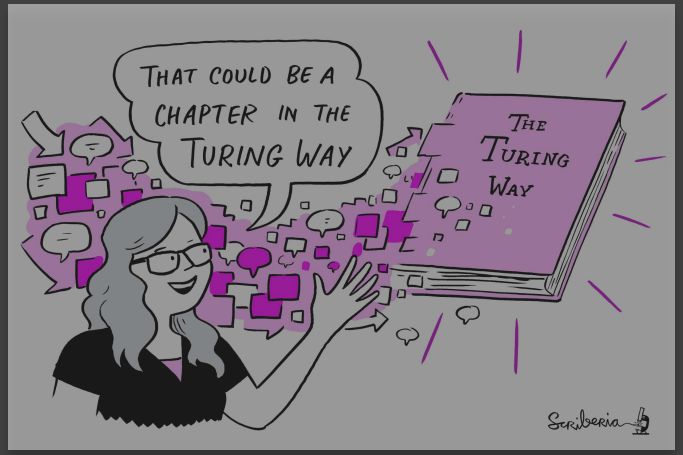
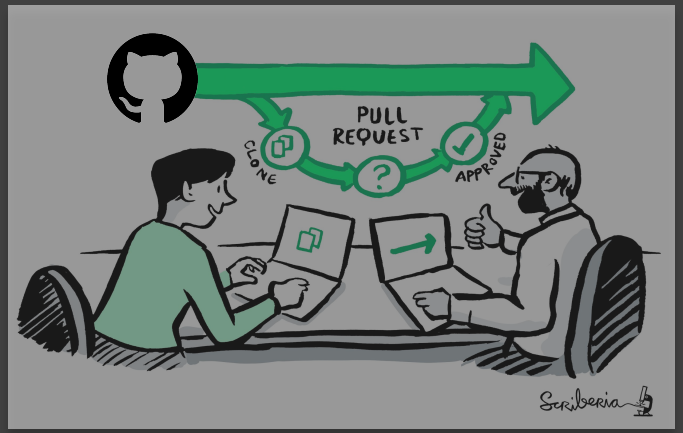
A Book

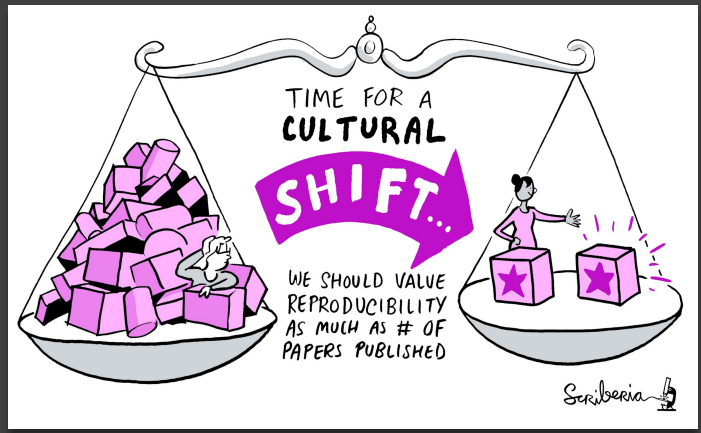


A Community

An Open Source Project



A Culture of Collaboration



Every contribution counts

The Turing Way fosters a culture of collaboration

Open Leadership principles

Mozilla Open Leadership principles: https://mozilla.github.io/olm-whitepaper/
https://github.com/alan-turing-institute/the-turing-way/blob/master/CODE_OF_CONDUCT.md

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Pathways for Collaboration

Contribute

Maintain & improve

Share resources and discuss

Review and update

Make it global

Share recommended practices

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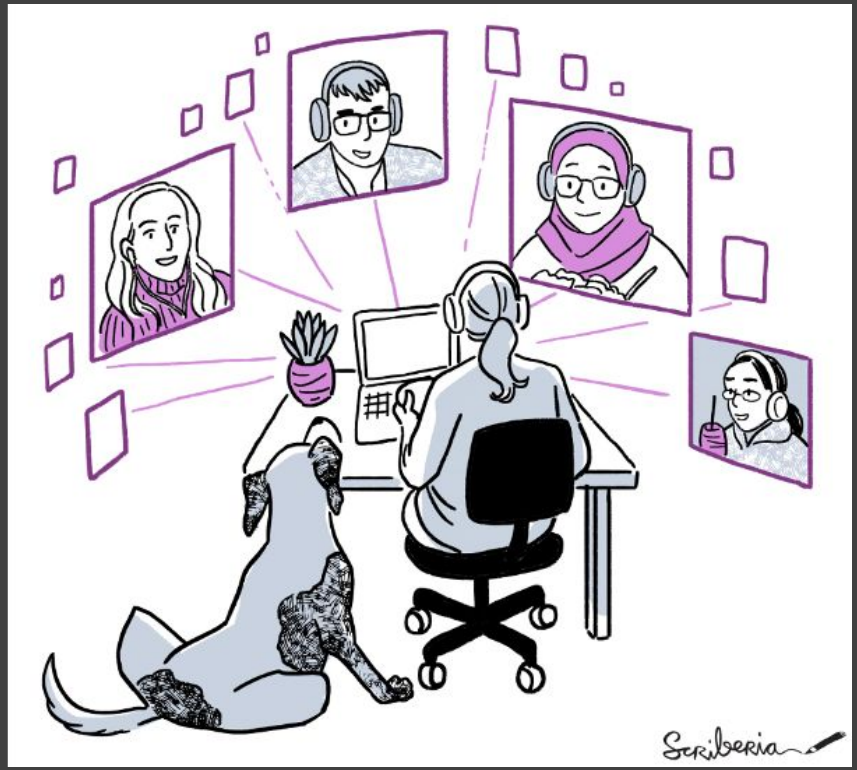
Community events

- Collaboration Cafes
  - 1st & 3rd Wednesdays (15:00 UTC)
- Community coworking
  - Mondays (11:00 UTC)
- Fireside Chat
  - 3rd or 4th Friday



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Contributing to *The Turing Way*

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Examples of contributions include:

- science communication and technical writing skills
- case studies of reproducible research
- editing and reviewing
- technical tools and methods in data science
- reusable resources for AI and ethics
- illustrations, sketch notes, and infographics
- improve accessibility
- data visualisation skills and best practices
- make content more engaging
- Get started!

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Acknowledgements:

– Kirstie Whitaker, Project Lead, Director - Tools, Practices and Systems

– Malvika Sharan, Co-lead, Senior Researcher - Open Research

– *The Turing Way* community, friends & collaborators

Useful links:

– Book: the-turing-way.netlify.com

– Twitter: twitter.com/turingway

– Newsletter: tinyletter.com/TuringWay

– GitHub: github.com/alan-turing-institute/the-turing-way

– All artwork by Scriberia: https://doi.org/10.5281/zenodo.3332808

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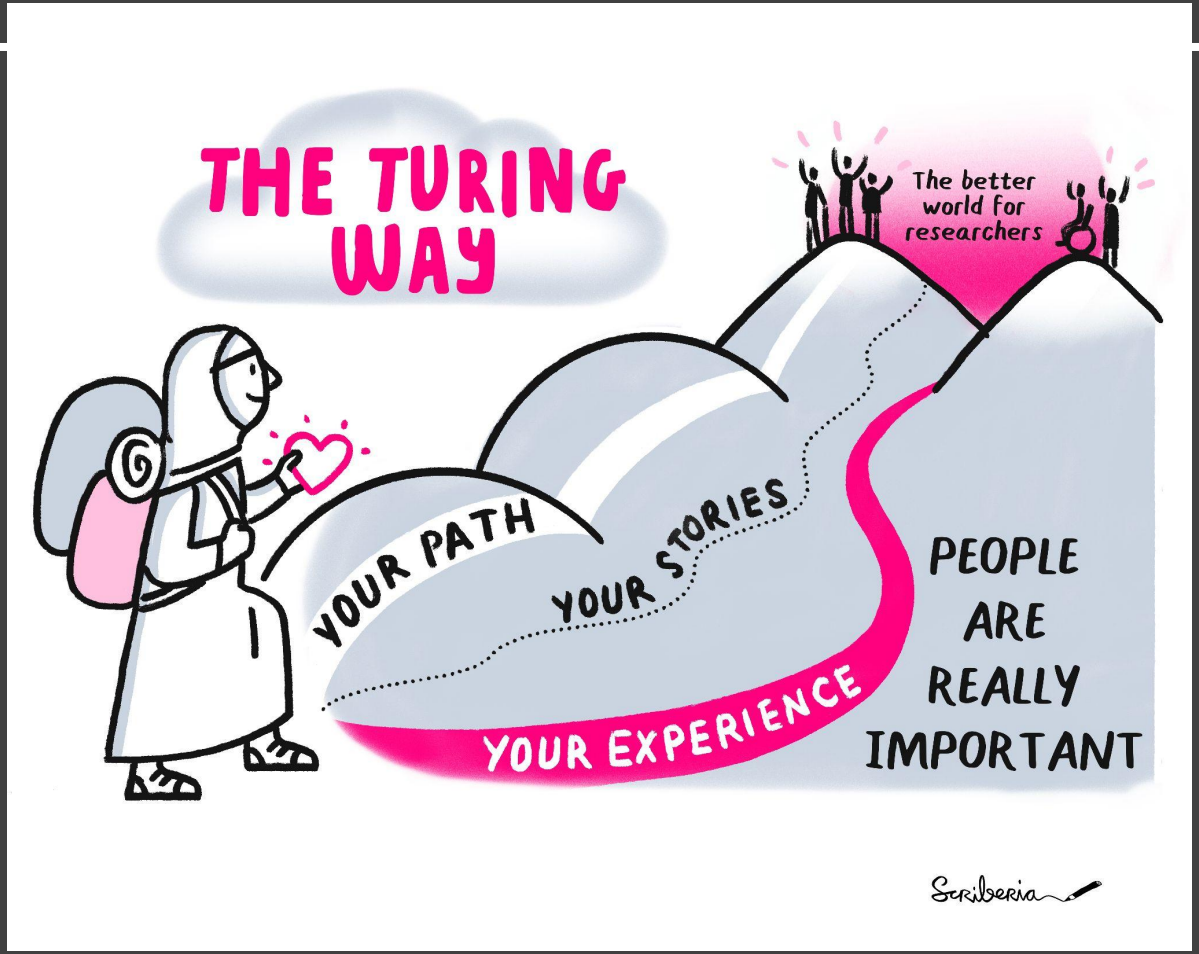
Your way!



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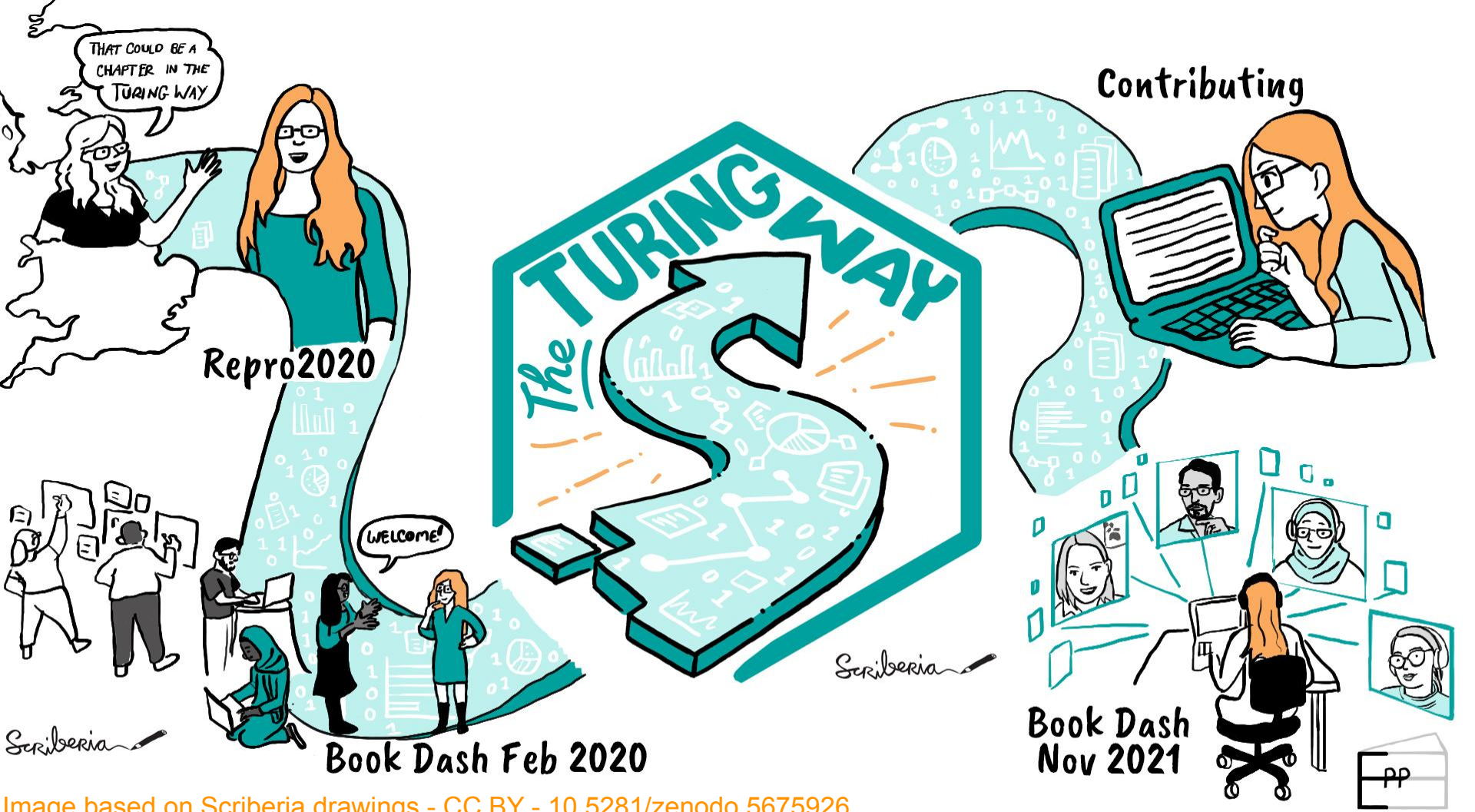

Image based on Scriberia drawings - CC BY - 10.5281/zenodo.5675926