Session 1 - GitHub Basic Intro

Emma Karoune and Celine Kerfant

On behalf of the ICOPS Committee

Adapted from: Esther Plomp's Github Intro workshop

References: Mozilla Science Lab's Study Group Orientation,
Friendly GitHub Intro by Kirstie Whitaker &
Visual description: https://learngitbranching.js.org/
The Turing Way's 'Getting started with Github'

Other resources:

Developing Collaborative Documents *Click here for the paired online materials*

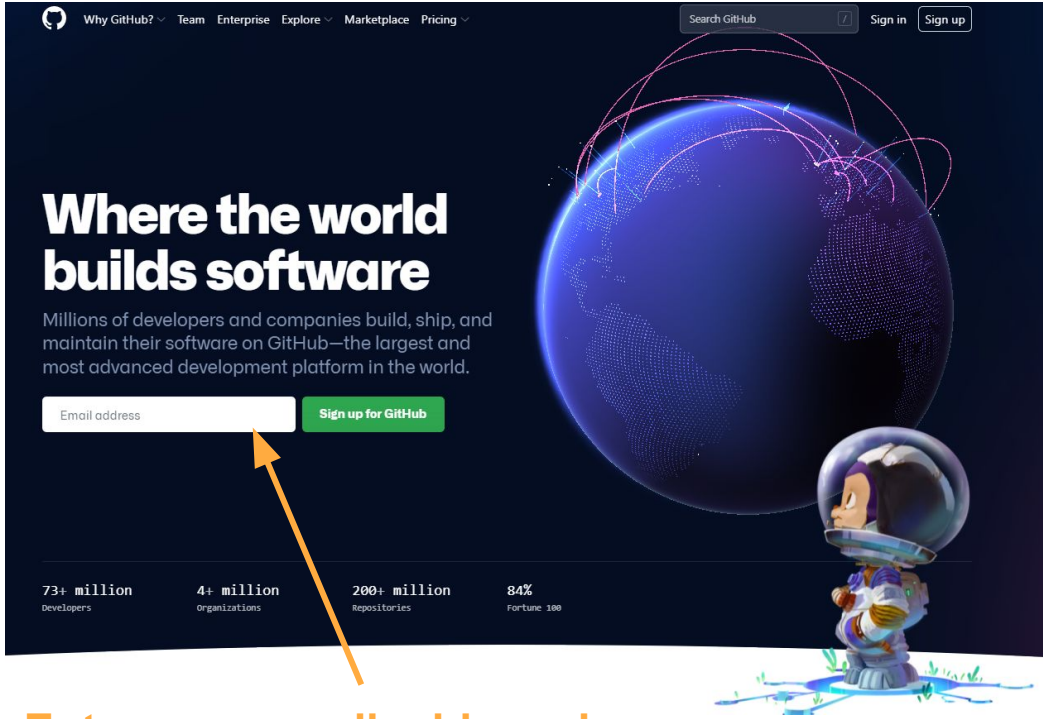
by Malvika Sharan

GitHub

Go to github.com

Step 1: Sign-up

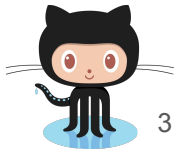
Step 2: Log in



Enter your email address here and click green button

Learning outcomes - Session 1

- To list some examples of use of Github.
- To be able to navigate the Github interface.
- To set up a personal repository.
- To start using markdown script.



Learning outcomes - Further sessions

Session 2 - *Collaboration with Github*

- To know what Version control is.
- To start using a collaborative workflow in Github.

Session 3 - *Further uses with Github*

- To know how to set up project management boards.
- To set up a simple Github webpage.

We won't be covering:

- Git through the command line - see for example Version Control with Git by the Carpentries
- Using a programming language with Git - see slide 105 for R examples

Schedule - 9am to 11am UTC

09:00 - 09:10 Log in and setting up a GitHub account

09:10 - 09:15 Intro to session

09:15 - 09:35 Why use Github?

09:35 - 10:05 Creating first GitHub repository

10:05 - 10:40 Markdown and editing README.md file

10:40 - 10:50 Adding a license

10:50 - 11:00 Final tips, Wrap up, questions.

Schedule - 2pm to 4pm UTC

14:00 - 14:10 Log in and setting up a GitHub account

14:10 - 14:15 Intro to session

14:15 - 14:35 Why use Github?

14:35 - 15:05 Creating first GitHub repository

15:05 - 15:40 Markdown and editing README.md file

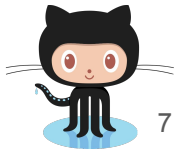
15:40 - 15:50 Adding a license

15:50 - 15:00 Final tips, Wrap up, questions.

Code of Conduct

Yes / Encouraged

- Show empathy and kindness toward others
- Be respectful of differing opinions, viewpoints, experiences and **technological choices**
- Give and gracefully accepting constructive feedback
- Take responsibility for mistakes and any impact on others, learn from the experience
- Taking breaks to recharge!



Code of Conduct

Please contact about any violations:

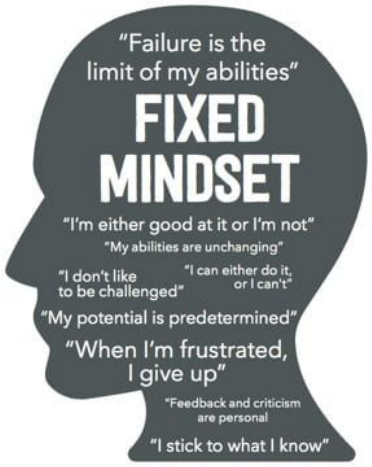
- Emma Karoune (ekaroune@googlemail.com)
- Celine Kerfant (celineemmanuelle.kerfant@upf.edu)

No harassment

- Verbal and text comments that reinforce social structures of domination related to gender, gender identity and expression, sexual orientation, ability, physical appearance, body size, race, age, religion or work experience.
- Use of sexual or discriminatory imagery, comments, or jokes
- Deliberate intimidation, disruption
- Unwelcome sexual attention
- Advocating for, or encouraging, any of the above behaviour

If the Code of Conduct is violated you will be asked to stop or leave the space.

Learning with a growth mindset



Try to have a go at the activities yourself

But do ask for help when you get stuck

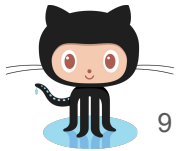
There are no silly questions.

If you need help - use the zoom raise hand or write a question in the chat or shared document.

- When ready to move on - please do a thumbs up.

In-person

- Use stickies: please use a green for when you're ready to continue, a red one if you're stuck.
- If you're helping someone: try as much as possible to let this person do the typing/fixing and walk them through it. Try to avoid taking over the keyboard and fixing it for them.




Issue
Open
Moisture data sharing
What if farmers could share moisture data?!
Comment

Why use GitHub?

It’s not just for software, it’s for collaborative working on ANY project!

On Github you can:

- Collaborate on projects
- Share your documentation
- Build your own website
- Set up presentations
- Project management
- Continuous integration
- Use as an add-on for repositories

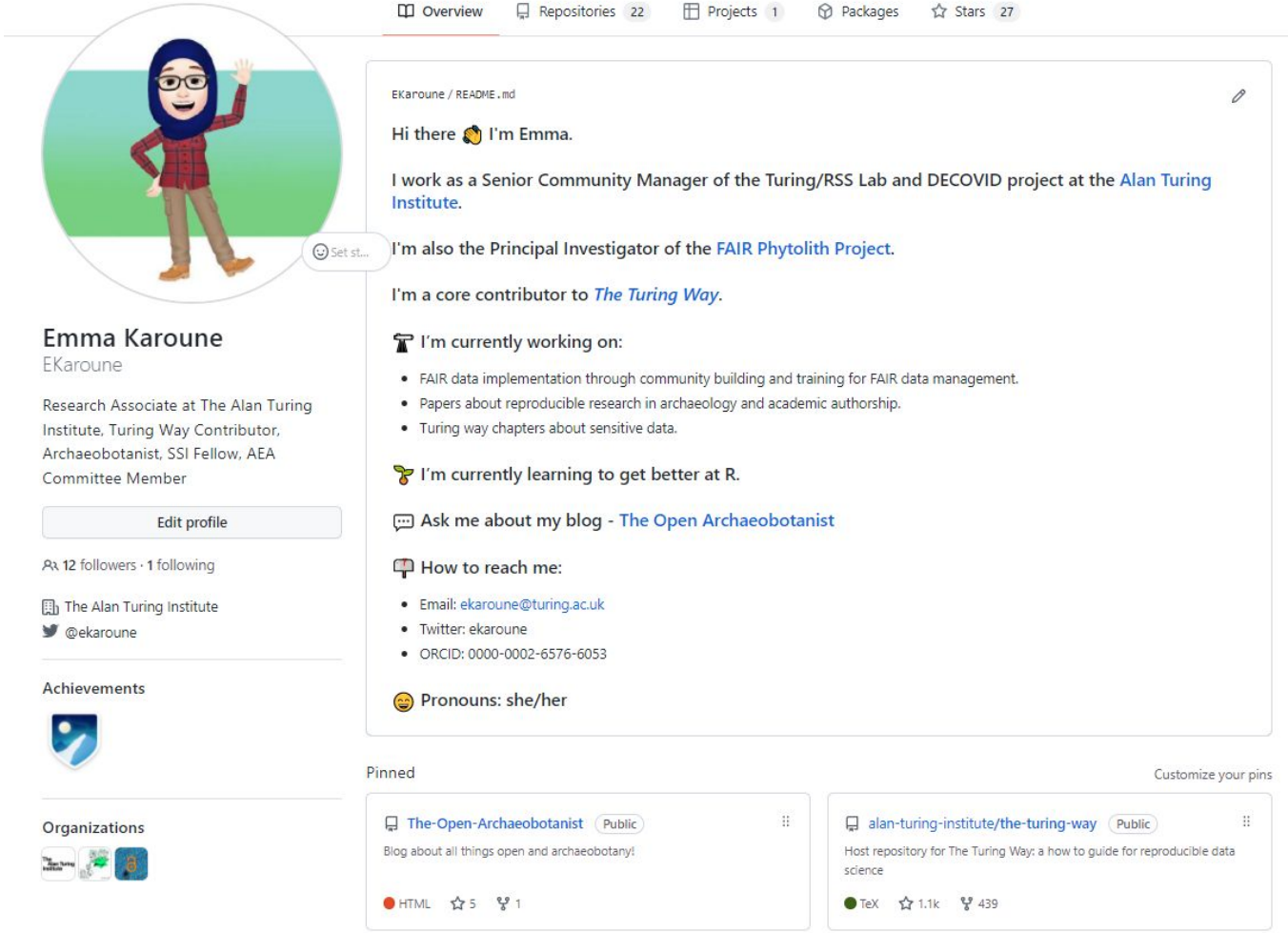
And track all that’s been done and who has done the work!

What do you want to be able to do with Github?

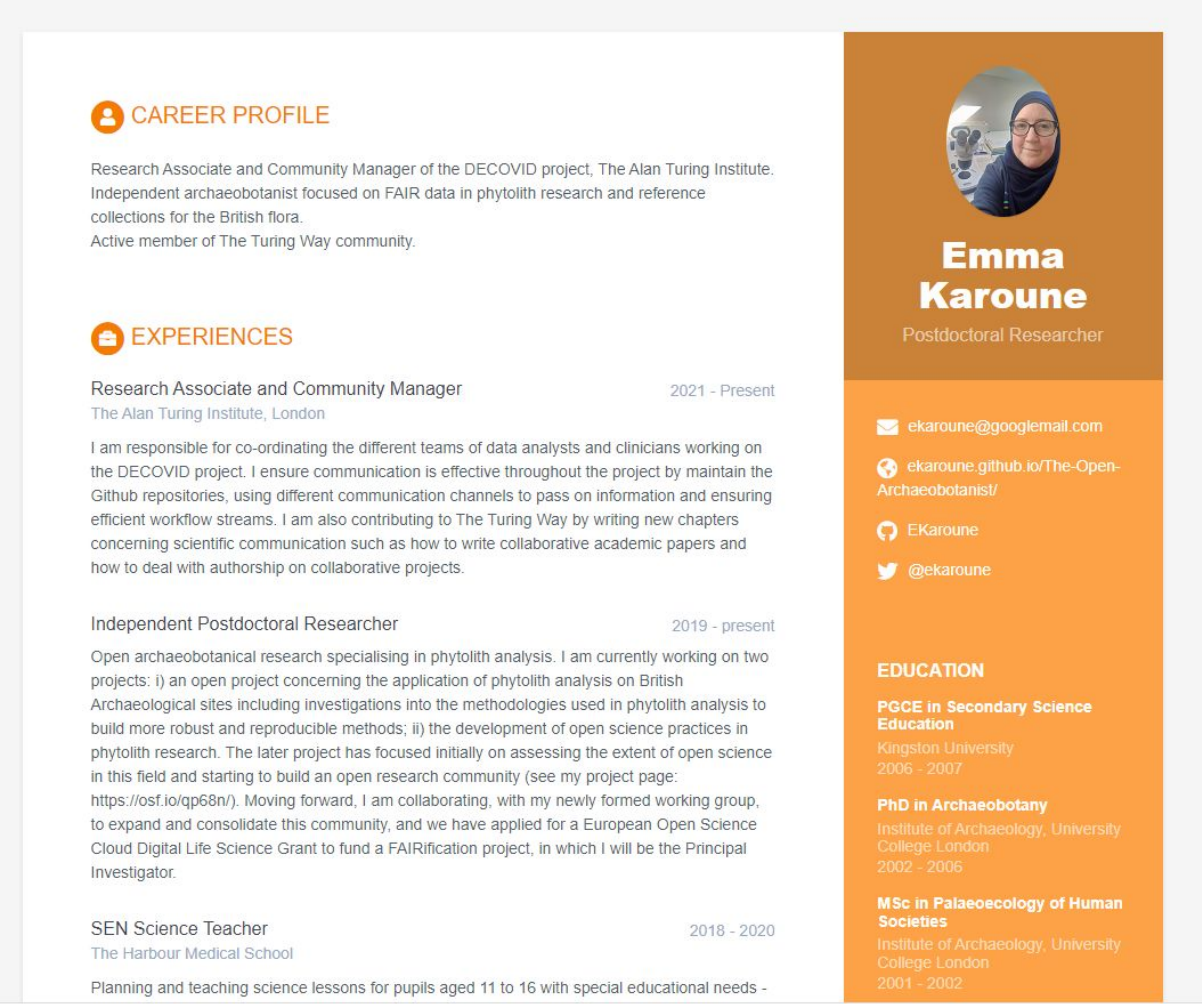
Take a moment to think about:

- What will you use Github for?

Use your Github profile page as a CV



Set up a website CV.



CAREER PROFILE

Research Associate and Community Manager of the DECOVID project, The Alan Turing Institute.
Independent archaeobotanist focused on FAIR data in phytolith research and reference collections for the British flora.
Active member of The Turing Way community.

EXPERIENCES

Research Associate and Community Manager 2021 - Present
The Alan Turing Institute, London

I am responsible for co-ordinating the different teams of data analysts and clinicians working on the DECOVID project. I ensure communication is effective throughout the project by maintain the Github repositories, using different communication channels to pass on information and ensuring efficient workflow streams. I am also contributing to The Turing Way by writing new chapters concerning scientific communication such as how to write collaborative academic papers and how to deal with authorship on collaborative projects.

Independent Postdoctoral Researcher 2019 - present

Open archaeobotanical research specialising in phytolith analysis. I am currently working on two projects: i) an open project concerning the application of phytolith analysis on British Archaeological sites including investigations into the methodologies used in phytolith analysis to build more robust and reproducible methods; ii) the development of open science practices in phytolith research. The later project has focused initially on assessing the extent of open science in this field and starting to build an open research community (see my project page: https://osf.io/qp68n/). Moving forward, I am collaborating, with my newly formed working group, to expand and consolidate this community, and we have applied for a European Open Science Cloud Digital Life Science Grant to fund a FAIRification project, in which I will be the Principal Investigator.

SEN Science Teacher 2018 - 2020
The Harbour Medical School

Planning and teaching science lessons for pupils aged 11 to 16 with special educational needs -

Emma Karoune
Postdoctoral Researcher

ekaroune@googlemail.com
ekaroune.github.io/The-Open-Archaeobotanist/
EKaroune
@ekaroune

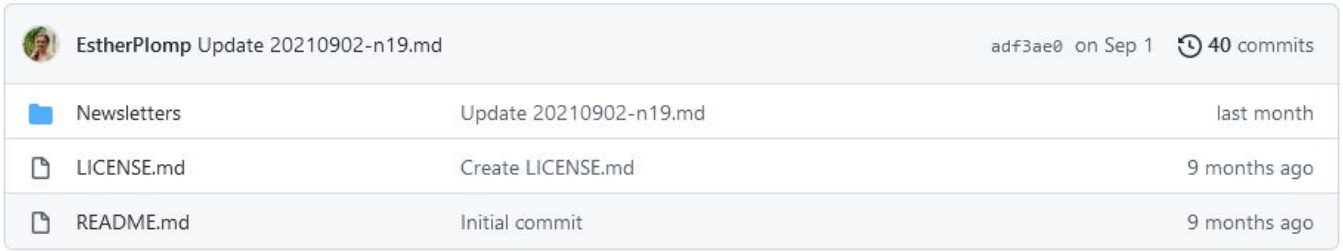
EDUCATION

PGCE in Secondary Science Education
Kingston University
2006 - 2007

PhD in Archaeobotany
Institute of Archaeology, University College London
2002 - 2006

MSc in Palaeoecology of Human Societies
Institute of Archaeology, University College London
2001 - 2002

Why Github?



README.md

TNW-PhD-Newsletters

Overview of the newsletters sent to the PhD students of TNW

https://github.com/EstherPlomp/TNW-PhD-Newsletters

Events:

- Four online workshops demonstrating **open-source tools in chemistry** are taking place in the upcoming months, including ChimeraX, GNINA 1.0 and DataWarrior. See also the recordings from the workshops on DataWarrior, PyMOL, GoogleCoLab, CheMBL, Fragalysis, Knime that were organised before.
- NUI Galway is hosting the third **Open Scholarship Week** from **10-14 May**. Registrations are now open and there is an Open Scholarship Prize Competition (deadline for applications is **16 April**)!
- NWO Life2021 (NWO conference for the Dutch Life Sciences) takes place online on the 26-28 of May. Deadline for poster abstract submission is the **8th of April**.

The Netherlands eScience Center opened up their call for in-kind investment of a dedicated team of research software engineers (RSEs) from the eScience Center that will work together with you on a project. You will need your supervisor (or someone else with a PhD) for this application. First deadline is **6th of May**.

You can indicate interest for an **intermediate Python course** piloted by the UK Software Sustainability Institute here.

Working on your next or first **publication**? Want to publish a protocol?

- Not sure how to structure your publication? This brief guide to writing manuscripts might be of help! (with benefits of Open Science listed on page 6)
- PLOS ONE introduced two new publication formats: Lab Protocols and Study Protocols!
- How to write a great science paper – tips from a novelist
- Watch a short video on how to write an abstract
- Use Recite to check your citations

Why Github?

https://estherplomp.github.io/

ABOUT ME

ROLES

OUTPUTS

TALKS

BLOGS

LEADERSHIP

COPYRIGHT

ESTHER PLOMP

OPEN SCIENCE / RESEARCH DATA MANAGEMENT / HUMAN OSTEOLOGY / ISOTOPE ARCHAEOLOGY

I'm an Open Science enthusiast and I would like to contribute to a more equitable way of knowledge generation and facilitate others in working more transparently. My research interests are osteology/bioarchaeology. I like to listen/read books (see this Twitter thread for some titles), dance, draw and game (Guildwars 2) when I'm not eating pie with friends/family.

Please get in touch about any ideas for collaboration, speaking opportunities, mentorship or to send me some cat pictures via the channels below:

Why Github?

Data Organization in Spreadsheets

Hao Ye

Health Science Center Libraries, University of Florida

(updated: 2021-08-31)

https://uf-repro.github.io/data-organization/slides.html#1
https://github.com/uf-repro/data-organization/blob/main/slides/slides.Rmd

See also:

- https://rmarkdown-shilaan.netlify.app/#1
- https://github.com/shilaan/rmarkdown-session

https://slides.garrickadenbuie.com/extra-special-xaringan/?panelset1=setup2#1

Why Github?

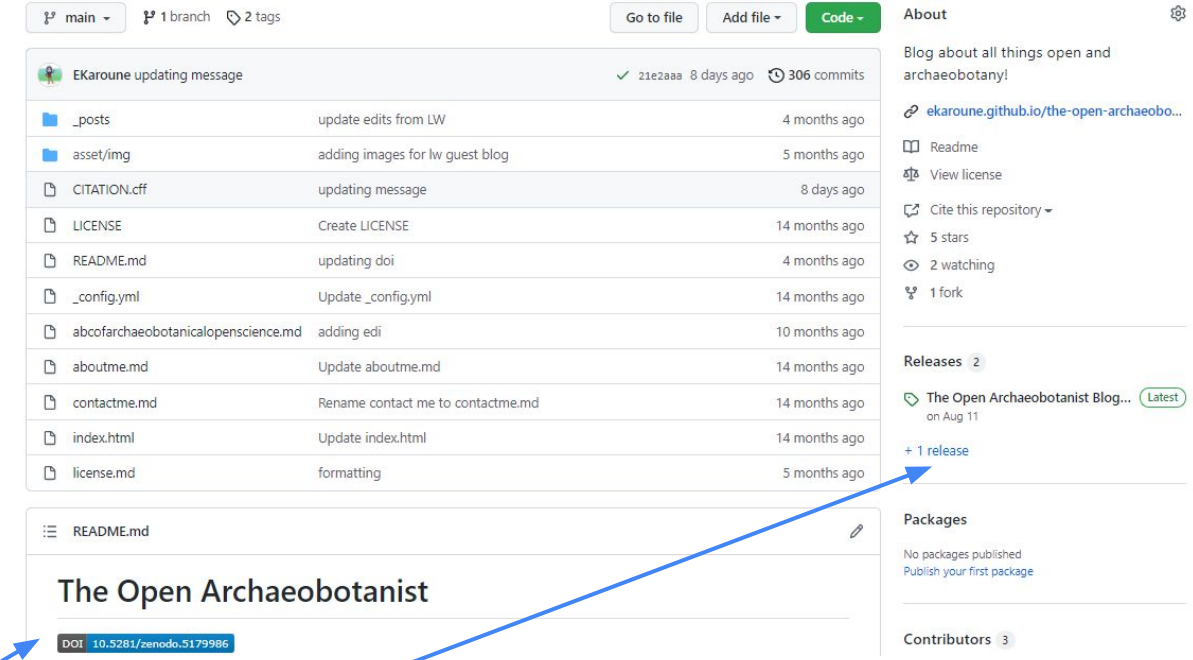
Date	Title	Duration	Event	Location	Source
Feb 20, 2019	The Carpentries	30min	ELIXIR Bioinformatics Training Tools Workshop	Debrecen, Hungary	
May 20, 2019	Beer is alive!	30min	Pint of Science	Freiburg, Germany	
Feb 7, 2019	Galaxy Training Network and Schema.org	10min	Boost Your Visibility – Improving F of FAIR for Dutch Training and Data Resources through Bioschemas	Utrecht, Netherlands	
Feb 20, 2019	The training effort of the Galaxy community	30min	ELIXIR Bioinformatics Training Tools Workshop	Debrecen, Hungary	

http://talks.bebatut.fr/2019/
https://github.com/bebatut-slides/2019

Add on to repositories

Link your Github repos to:

- Zenodo
- Open science framework
- Figshare



Why?

- DOI
- Versioning
- Add space

No collaboration?

Colin Angus @VictimOfMaths · 18 jun.

Als antwoord op @VictimOfMaths

1) You write better code when you know other people might see it.

It's good to have an incentive to add more comments to your code, lay things out neatly and (generally) avoid hacky workarounds.

4 9 171

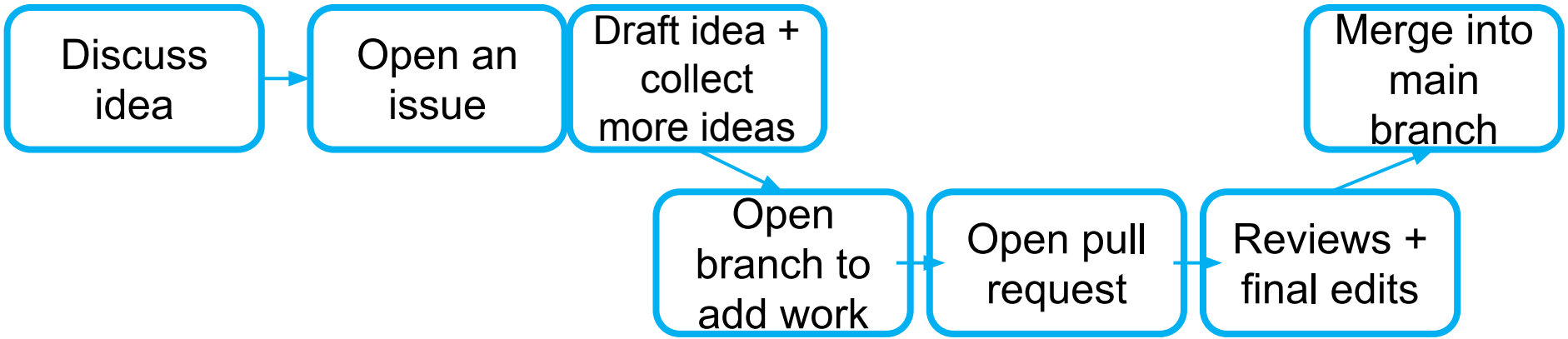
https://twitter.com/VictimOfMaths/status/1405809691062591490

The Turing Way

An Open Source guide on Data Science.

We involve and support a diverse community to collaboratively develop resources to make data science reproducible, ethical and inclusive for everyone.

309 contributors - how? **Github workflow**



https://the-turing-way.netlify.app/welcome.html

Share documentation

main ▾ the-turing-way / CONTRIBUTING.md — Go to file ···

malvikasharan update contributing file ✓ — Latest commit 2514160 22 days ago — History

34 contributors +15

471 lines (331 sloc) | 39.1 KB — Raw | Blame

Contributing to *The Turing Way*

Welcome to *The Turing Way* repository!

We're excited that you're here and want to contribute.

We want to ensure that every user and contributor feels welcome, included and supported to participate in *The Turing Way* community. We hope that the information provided in this document will make it as easy as possible for you to get involved.

We welcome all contributions to this project via GitHub issues and pull requests. Please follow these guidelines to make sure your contributions can be easily integrated into the projects. As you start contributing to *The Turing Way*, don't forget that your ideas are more important than perfect pull requests. ❤️

If you have any questions that aren't discussed below, please let us know through one of the many ways to get in touch.

Table of contents

Been here before? Already know what you're looking for in this guide? Jump to the following sections:

- Joining the community
- Inclusivity
- Get in touch
- Contributing through GitHub

Projects 3 — Security — Insights

main ▾ — 75 branches — 6 tags — Go to file — Add file ▾ — Code ▾

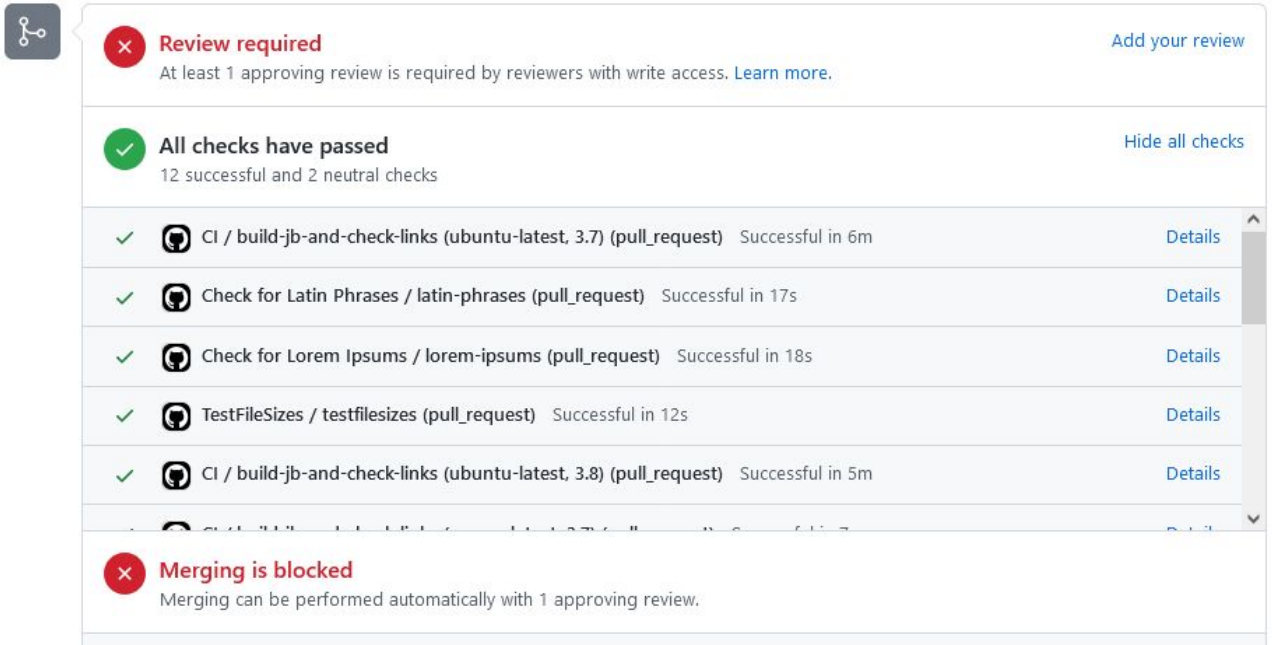
arronlacey Merge pull request #2234 from arfon/typos ... — f70480c 8 days ago — 9,037 commits

.github	[MNT] Update links and references from master to main branch	2 months ago
README-translated	Update README-Italian.md	2 months ago
book	Github -> GitHub	11 days ago
communications	Update newsletter_30_Dec2021.md	14 days ago
conferences	[MNT] Update links and references from master to main branch	2 months ago
open-life-science-mentoring	Update README.md	22 days ago
project_management	move old files to archive	20 days ago
tests	remove -e	22 days ago
workshops	Added Alden's name	2 months ago
.all-contributorsrc	docs: update .all-contributorsrc	16 days ago
.gitignore	Adding pycharm file to gitignore, and add structure and comments. "bo...	14 months ago
.zenodo.json	Update .zenodo.json	last month
CITATION.cff	Update CITATION.cff	last month
CODE_OF_CONDUCT.md	Fix link in table of contents	10 months ago
CONTRIBUTING.md	update contributing file	22 days ago

https://the-turing-way.netlify.app/welcome.html

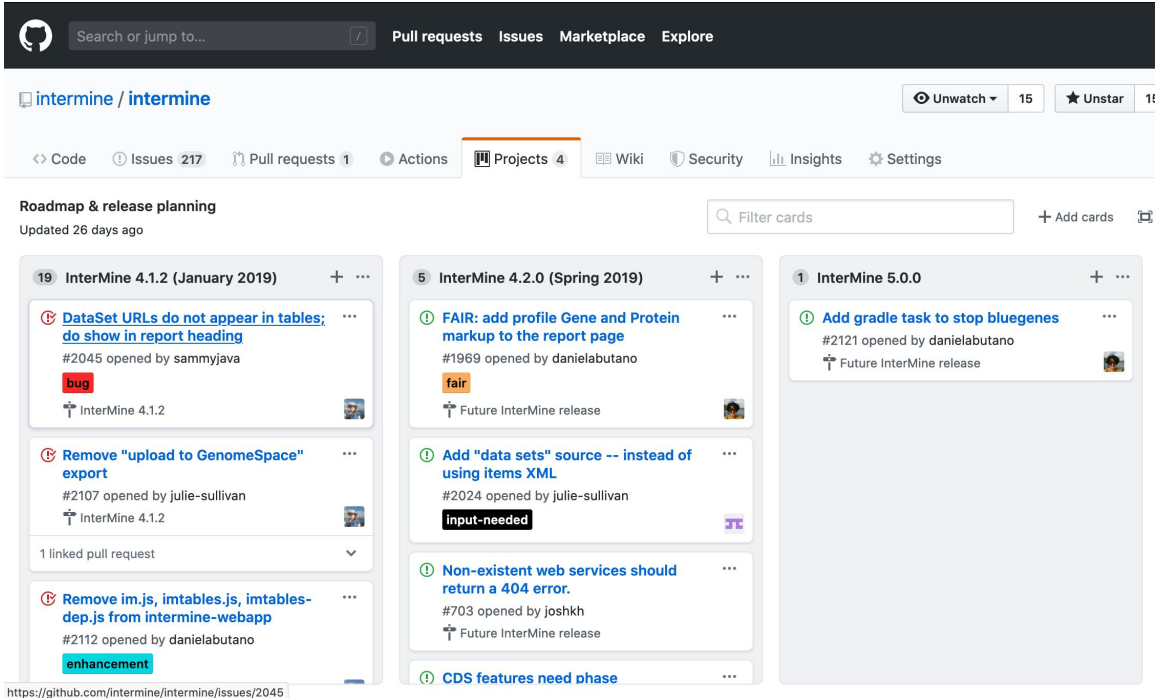
GitHub allows for testing/continuous integration to prevent errors

https://docs.github.com/en/actions/automating-builds-and-tests/about-continuous-integration



Project management (Project Board)

Sort issues, notes, to-dos in a set of columns.



Other similar platforms

TASK 1: Make your first repo

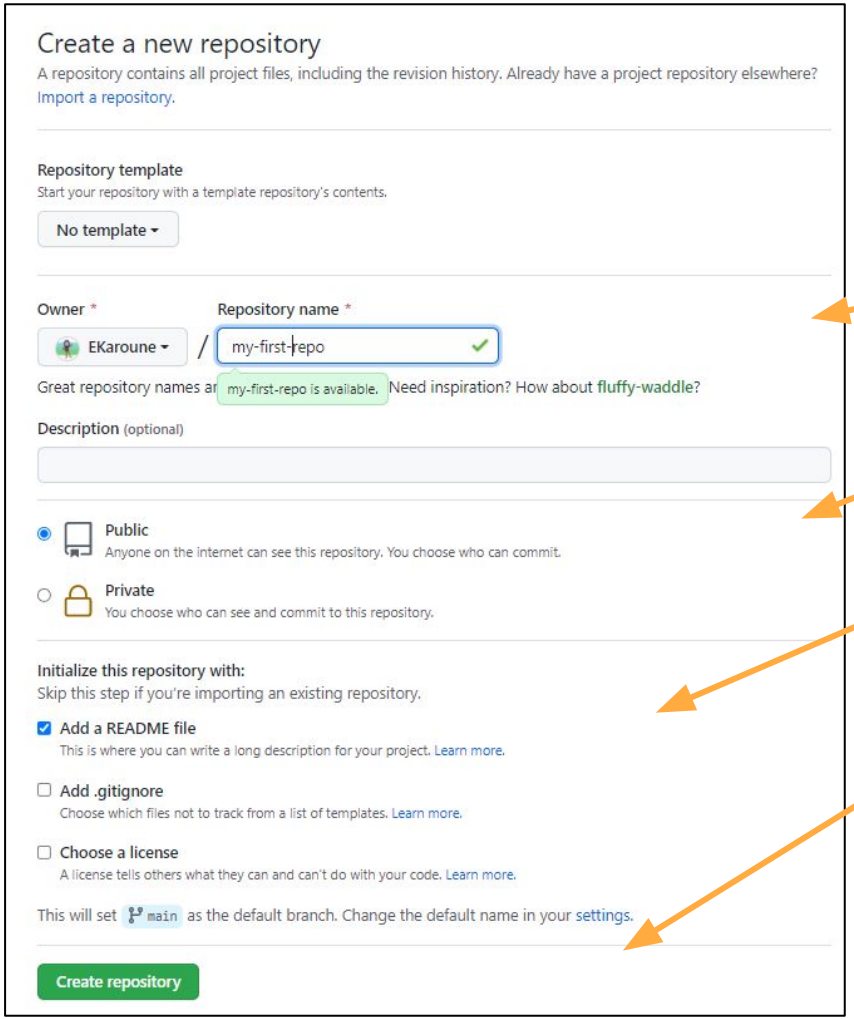
Repository (Repo)

A project where all your files are, online or on your computer.

DEMO of making a repository

Repositories on Github can:

- Be public or private
- On your own account or an organisational account
- You can give different users, different rights to editing repositories
- Can store and use any type of file - not just code.
- Linked to other tools/repositories



1. Click on green new button 

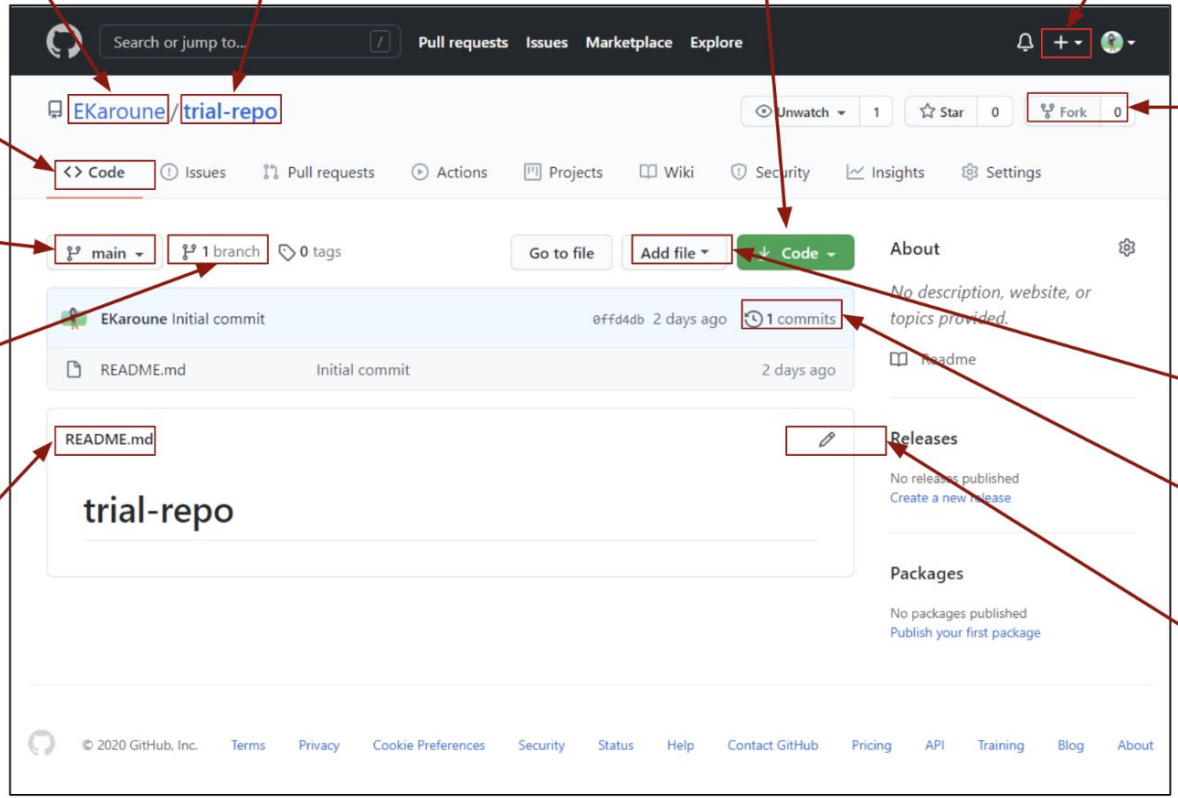
2. You will see the name of your account and you need to fill in a repository name next to it.
3. Also, leave the box ticked for “public” (so your repository is open to all) and then tick the box to create a “README file”.
4. Then click the green create repository button at the bottom.

Now make your own first repository!

You created your first repo.

https://www.freeiconspng.com/img/31116

Exploring the repository



GitHub & Markdown

How do you edit and format files on Github?

Using Markdown (.md)

- It’s a human readable script that can be use to add formatting elements to plaintext text documents.
- The syntax makes it render in a way that presents a nicely formatted document on Github or webpages.

Markdown (.md) for formatting

Markdown is a simple text “markup” language made for quickly writing formatted text

Great for blogs, documentation, and even writing papers.

GitHub automatically renders anything written in Markdown.

This can be specific files, pull requests, issues or comments.

Some useful resources:

- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet
- https://www.webpagefx.com/tools/emoji-cheat-sheet
- https://github.com/EstherPlomp/20211014-SeaChanges/blob/main/README.md

Task 2: Use Markdown to format README.md file

Any file with .md is a markdown file

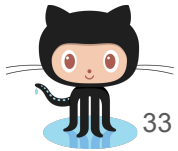
You have already created a README.md file

This is the **Landing page** for your repository

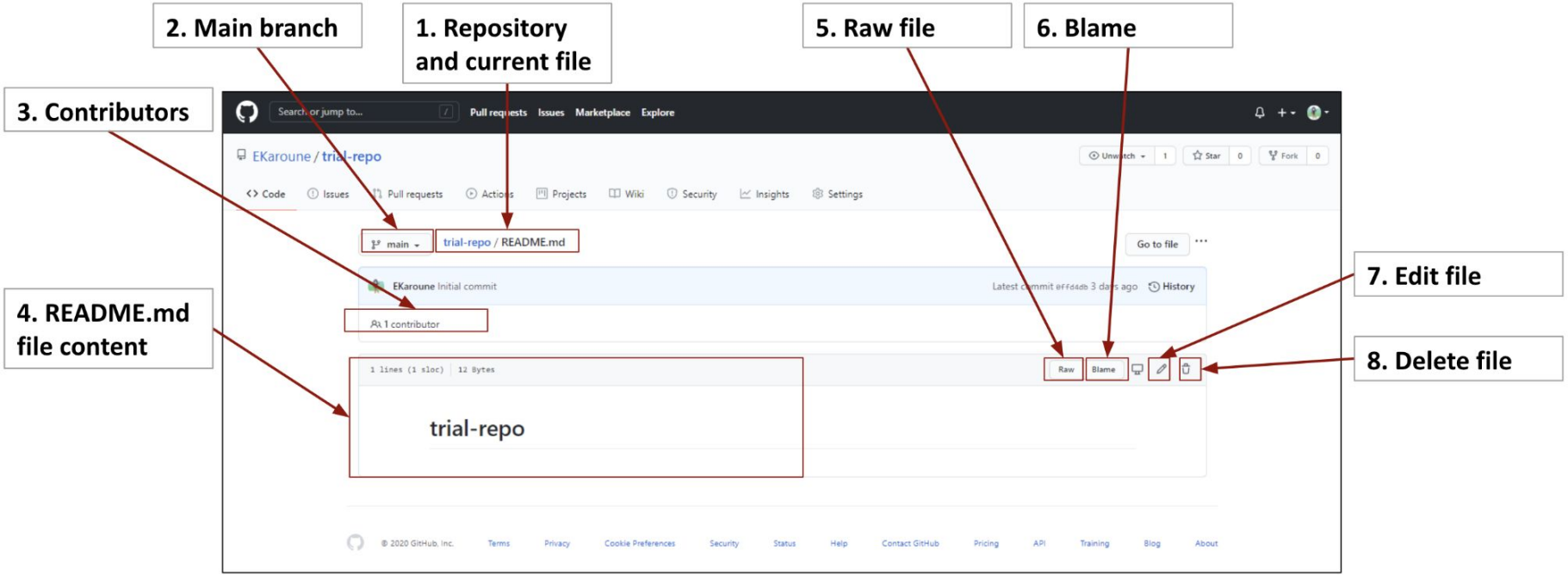
You can:

- Add information about your project
- List tasks of varying expertise clearly
- Add names/ids of your collaborators - contact information
- Invite others with specific skills

You need to use Markdown to edit this file.



From your repo landing page either click on the pencil symbol or click on the README.md file and then the pencil symbol.

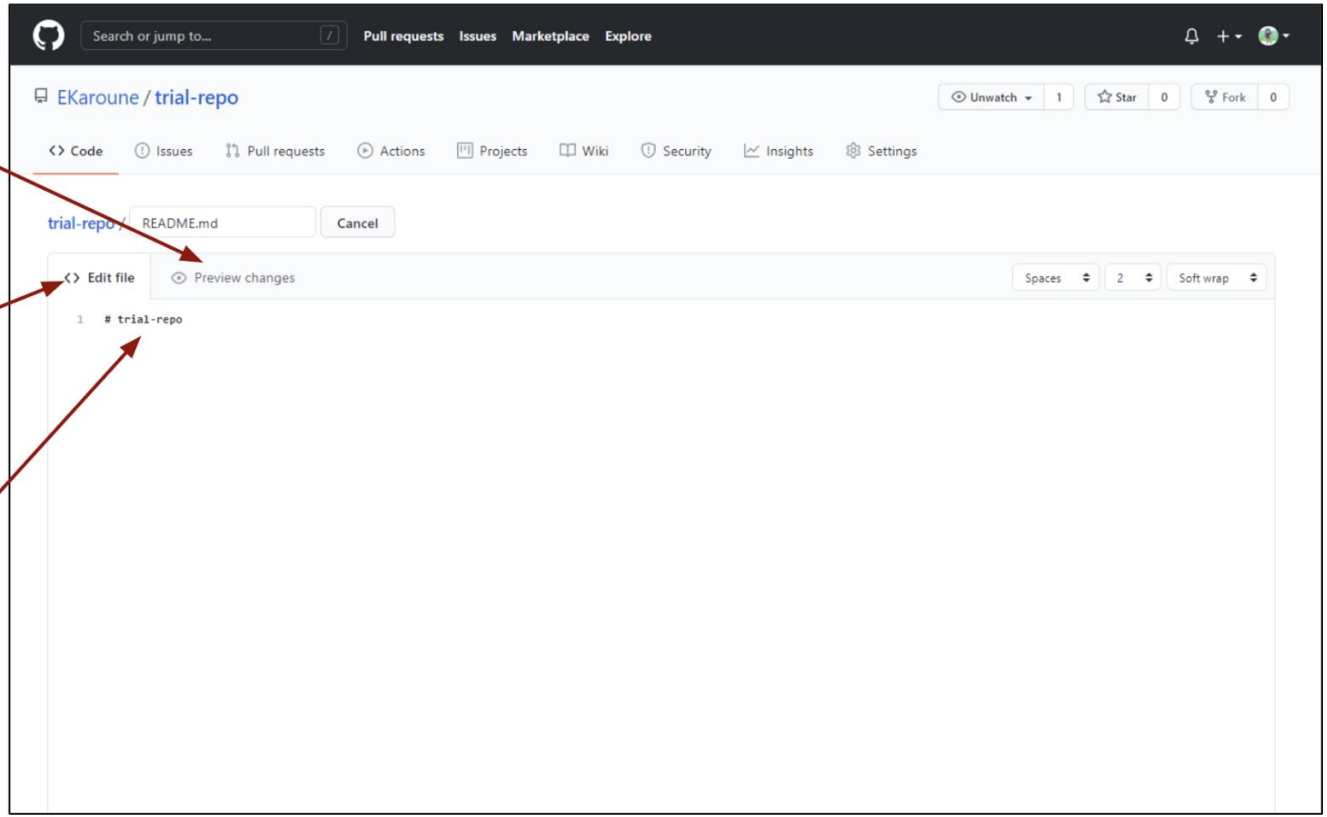


README.md file in edit mode

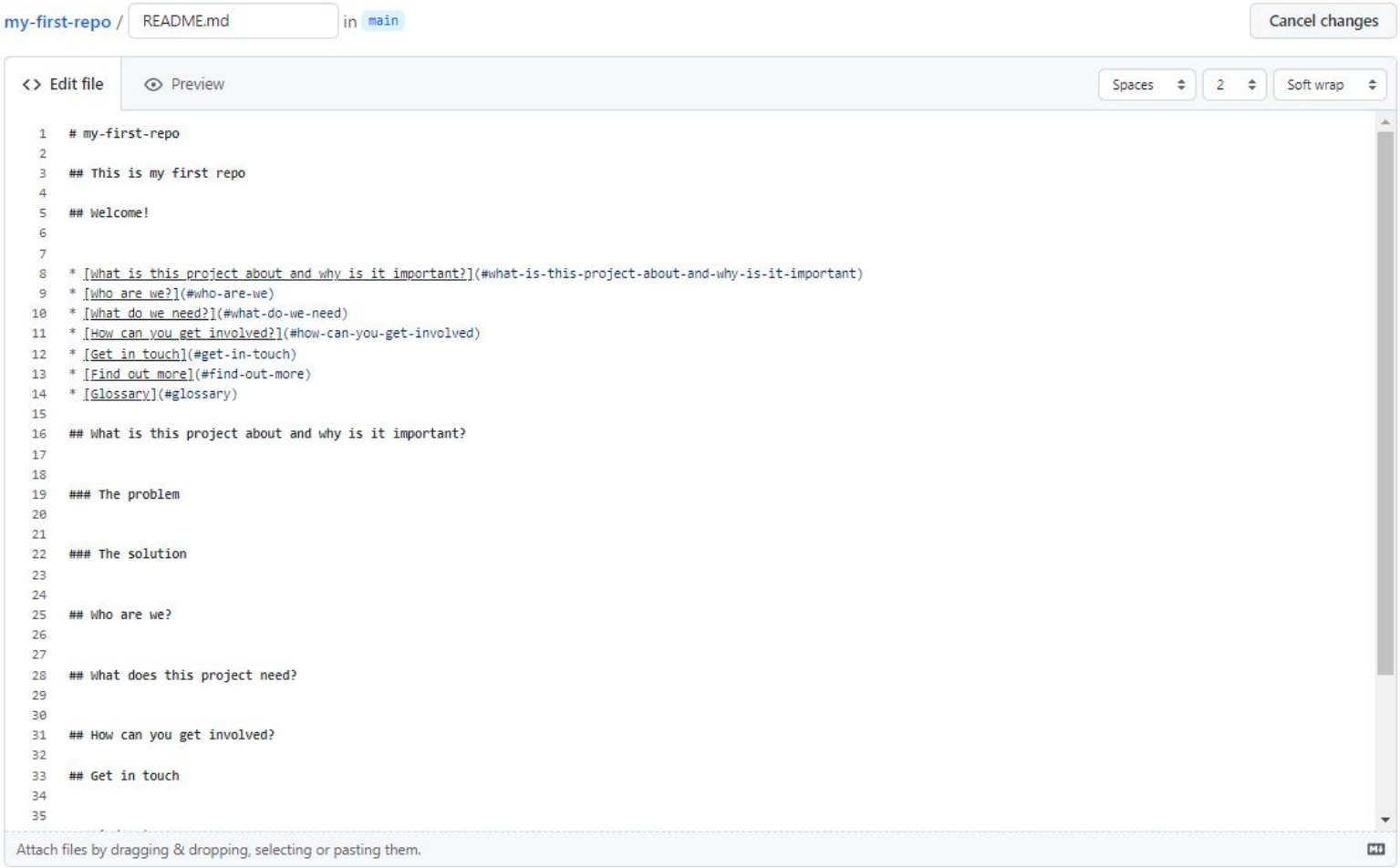
1. Preview changes

2. Edit file

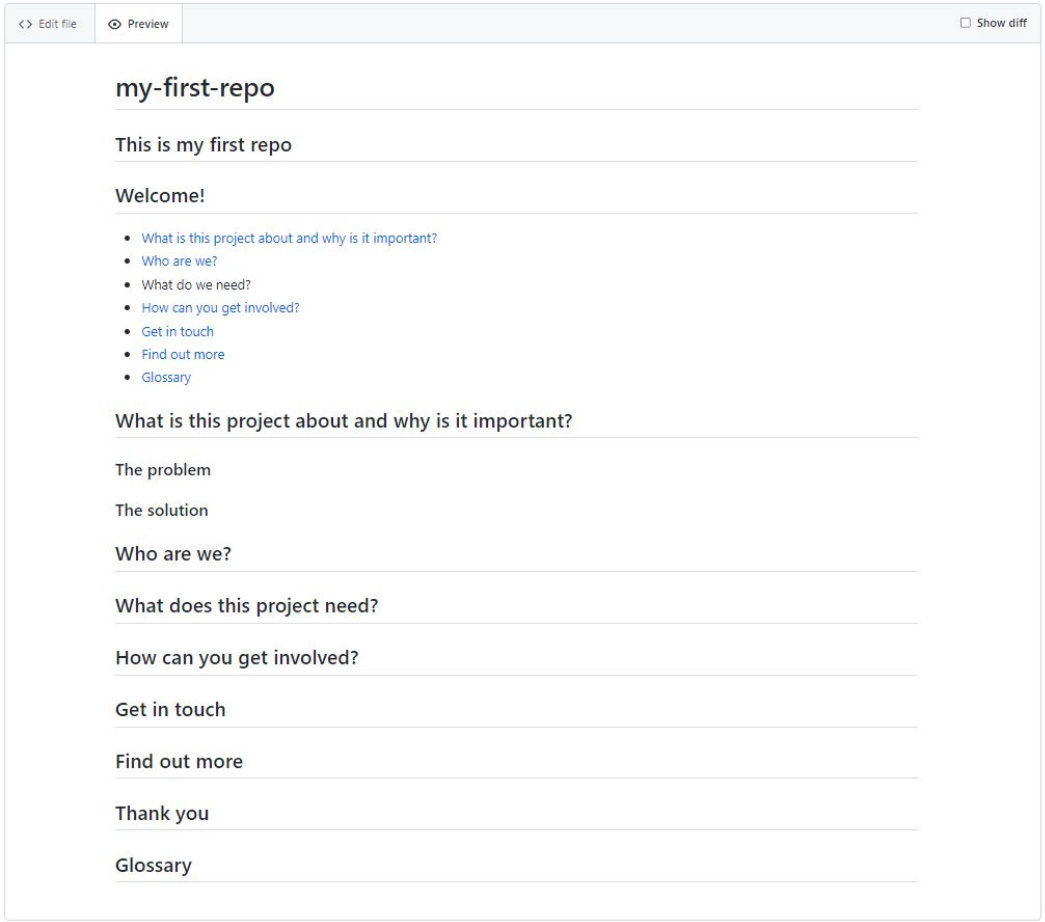
3. Add content to README.md



Adding a template



Adding a template - what it looks like rendered.

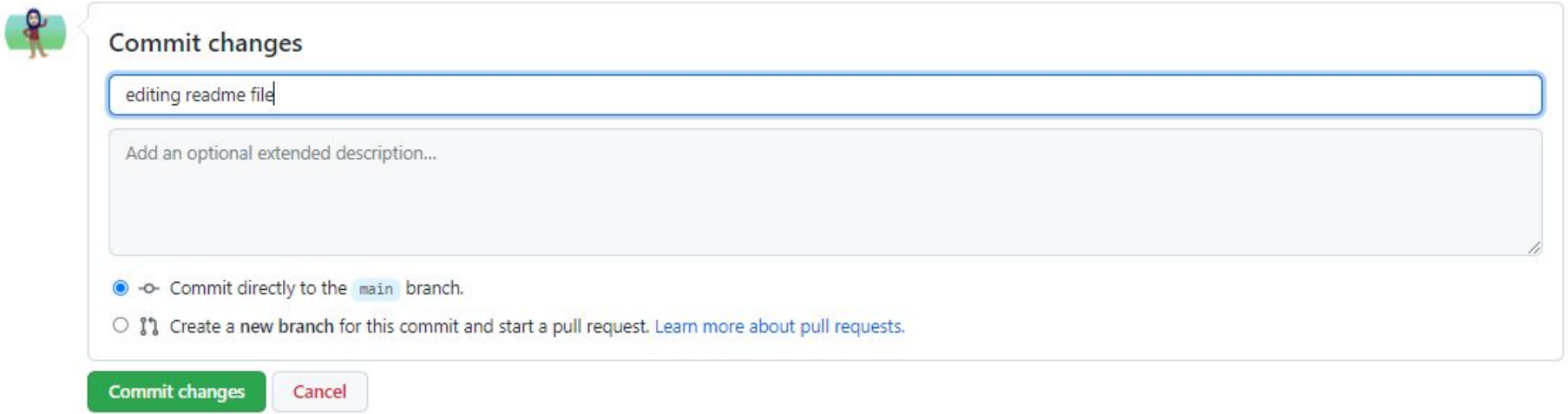


Once you have added more detail or a template to your README.file, you need to save the changes.

In Github, this is done by using the green *commit changes* button.

Always add a commit changes message.

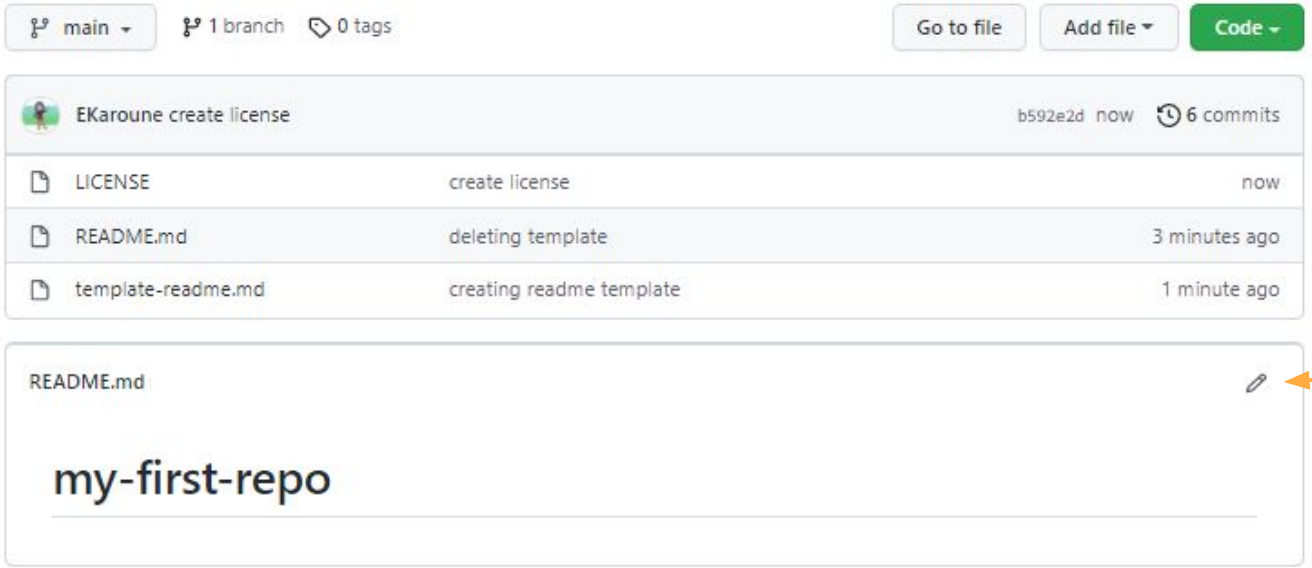
This allows you to track the changes made easily.



Task 2: Use Markdown to format README.md file

Readme examples

- https://alexwlchan.net/2021/10/readmes-for-open-science/ (multiple examples and explanation)
- https://github.com/EstherPlomp/Figures-Nd-data
- Project readme template



Click here to edit

Task 3: Adding a license

- All Github repositories need a license.
- Licenses on Github are for software/code
- You can add any license you want to your repo

Software/code - MIT license

Data - CC0 or CC-BY 4.0

Project repositories and documentation - CC-BY 4.0
and also add MIT if you have code

Links for licenses:

- Creative Commons
- MIT License

Task 3: Adding a license

Explore the licenses and put one on your repository

Software/code - MIT license

Data - CC0 or CC-BY 4.0

Project repositories and documentation - CC-BY 4.0 and also add MIT if you have code

Links for licenses:

- Creative Commons
- MIT License

CC-BY license Github file to copy and paste

Github license badges to add to README.md file - https://gist.github.com/lukas-h/2a5d00690736b4c3a7ba

Final tips

Adding a folder and new file:

- Click add file, then create new file.
- Enter the folder name and then / and then name of file.
- You can create a README.md file for every folder.

You can also upload files clicking add file, upload files.

- Then drag and drop the files you want to upload.
- This can be done in the landing page or in folders.

Any questions?

Can you?

1. Give an example of a use of Github that you learnt about in this session?
2. Describe how to start editing a file in Github?
3. What are the two files you need to create when making a new repository?
4. What is markdown script?

Session 2 - *Collaboration with Github*

- To know what version control is.
- To start using a collaborative workflow in Github.