

Why open source community building makes your research software better

(and what to expect when you get started)

Yo Yehudi



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To follow along, please open

DOI: 10.5281/zenodo.6545452

<https://bit.ly/fors-2022-community>



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My recent path:

Current

- **2022** Executive Director and [Open Life Science](#) co-founder - share your science openly
- **2019** EngD Student, University of Manchester

Previous

- **2015** Open Source Software Engineer & Community Manager at the University of Cambridge
- **2014** - Senior Software Engineer, CapitalOne
- **2013** - Project lead and developer, K-Now (academic spinout)
- **2011** - Front end web manager, MattressOnline



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Background - (before I got into software development and research)

 Callcenter sales & customer service

 Admin worker (yes, that's a fax machine!)

 Tech support

 I did a part-time degree in Computing and IT over 9 years.



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My path to radicalisation (aka why I like open)

2013 & 2014: Academic spinout company for knowledge management

-> Closed source & grant-funded, but most of the stuff I did just... disappeared.



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What was the point?



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Things I learned

As a software engineer ...

- 🐛 🐞 🐜 Bugs and oversights happen in big teams and in small teams, but...
- 🧑 🧑 🧑 Bigger and more varied “teams” make it easier to spot assumptions



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Q1: Have you written research code
used by others?
(please post in the Zoom chat)



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Bigger, more varied teams create better software



Diversity bug



Skills gap bug



Tools gap bug



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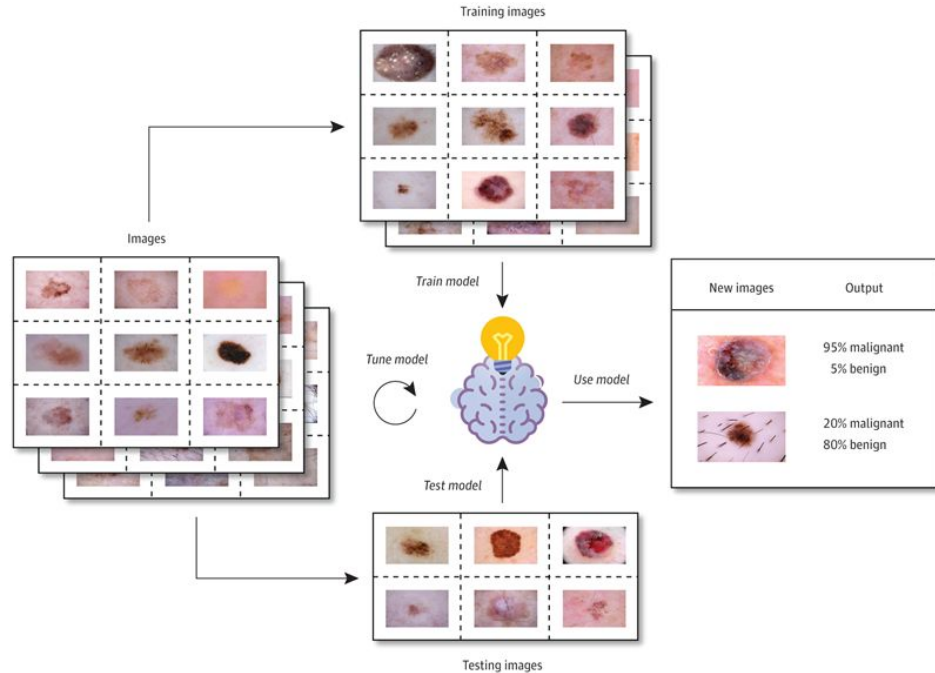
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Diversity bug:

This is a machine learning training set for skin cancer - spot any skin tones missing?

Source: [doi:10.1001/jamadermatol.2018.2348](https://doi.org/10.1001/jamadermatol.2018.2348)



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Skills gap bug:

Differing UX / documentation expectations in BLAST, popular bioinformatics software, results in bioinformatics workflow errors

Source:

<https://blastedbio.blogspot.com/2015/12/blast-max-target-sequences-bug.html>

Tools gap bug:

“To set up on Linux or Mac, run the following BASH command”

“Tested on Chrome, Firefox, and Safari.”



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These additional points of view, tools,
and skillsets can come from **open
source community**



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Q2: Have you written code that **others**
made contributions to?
(please post in the Zoom chat)



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Things I learned

As an open source
community manager ...
(at intermine.org )

People *want* to
participate and help with
those bugs and features.

You just need to show
them how.



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Gardening and creating,
managing and fostering an
inclusive open community
have a lot in common.



Do I have what it takes to
make this community flourish?
(Even better: what does it take
to make a community
flourish?)

Slide from Anna e Só



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General Guidelines

- **Community doesn't come for free.** More time in == better results out
- Establish clear expectations
- Communicate regularly
- Provide structure through the review processes
- Encourage constantly
- Model best practice



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- Document your project & process
 - README, Contributing.md, CODE_OF_CONDUCT.md, LICENSE, Roadmap
 - Create small tutorials on how to contribute to your project
- Organize Collaboration events
- Label your issues so it's easy to find the right one

newcomer-friendly

help wanted

first timers only

design

docs

python



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Learn our process

We have a welcoming "workflow" that supports you in getting started, then helps you reach out to welcome someone else in turn!



1.

Try an issue

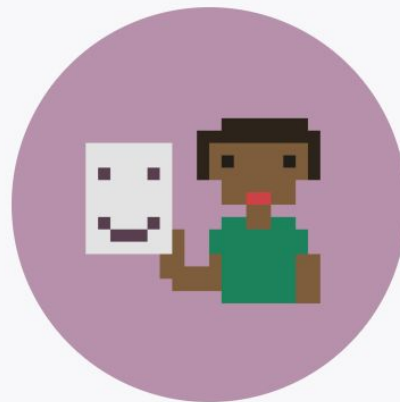
We've prepared extra-welcoming "first-timers-only" issues just for you.



2.

Help someone else out

Use your new skills to [assist someone else](#) who's just starting out. Browse issues below to see who needs help!



3.

Create a welcoming issue for someone else

[Read below](#) to learn how to create a "first-timers-only" issue yourself!

<https://code.publiclab.org/>



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Continued Mentorship

Should you continue mentoring this contributor?

General guidelines to choose contributors to invest in:

- **Available:** has the time and wants to contribute & learn
- **Teachable:** able to learn from you & the community
- **Passionate:** has a genuine interest in your project & mission
- **Skills:** has the skills you need on your project



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Ongoing Support

- Hang out in the project IRC, Gitter, Slack
- Answer any newcomer questions that might come up
- Help newcomers to GitHub as they go through their first issue
- Point people to good first issues & follow up with them
- Organize community events to welcome, support and mentor new contributors

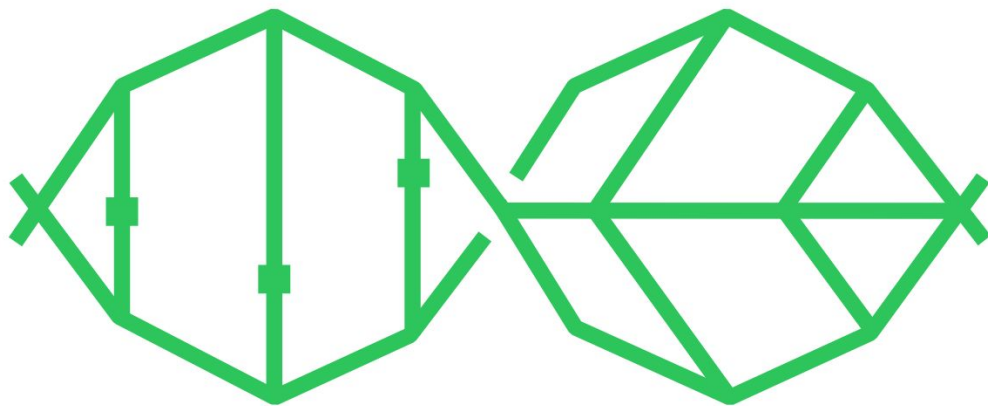


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Open Life Science

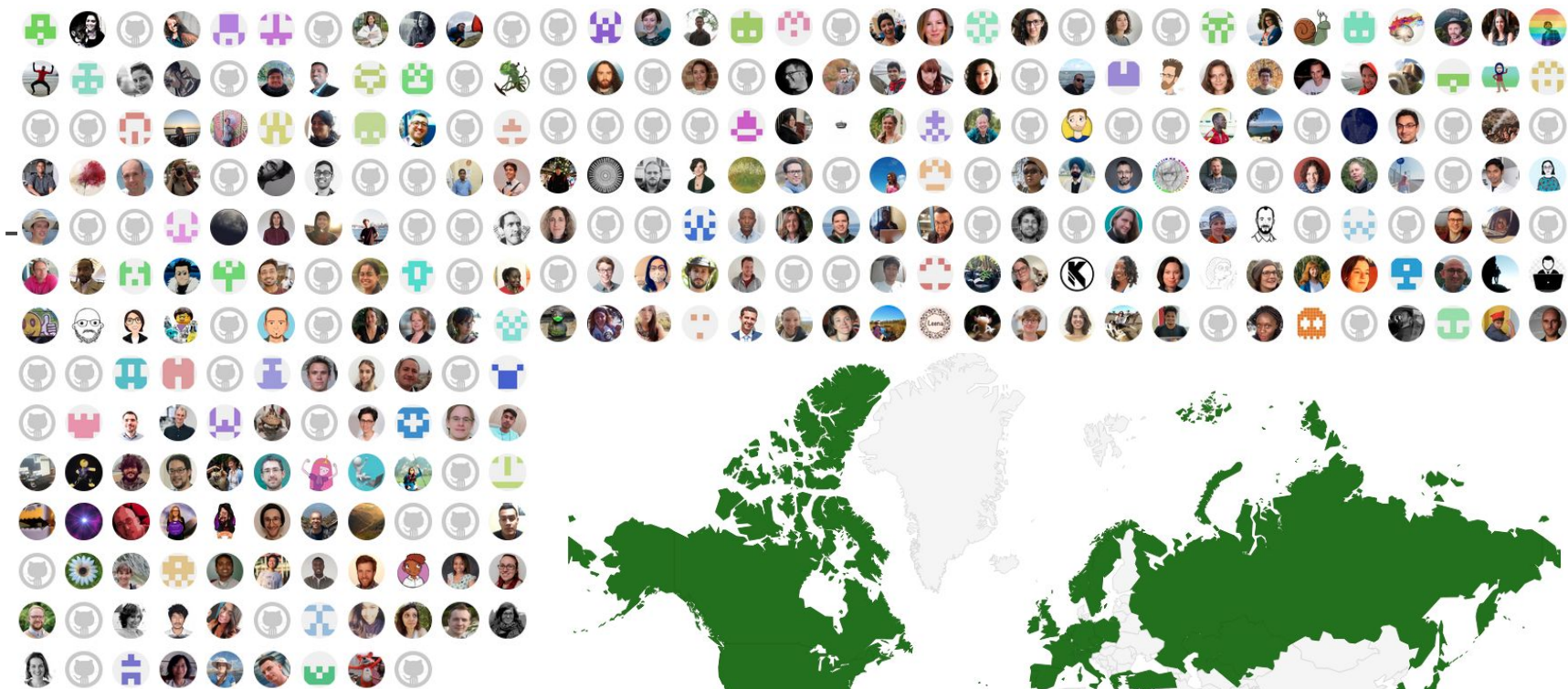


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Who we are:

372 mentors, mentees,
facilitators, and expert speakers

We believe that to be effective, **science should be shared openly with others** and made freely available.



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The Open Life Science
program helps
**individuals and research
groups** in becoming
**Open Science
ambassadors.**



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**Science can advance only when we share our
work with others**

... but, researchers are often skeptical about sharing their work due to their fear of getting scooped, being criticised ...

How to work
“openly” without
becoming
scientifically
vulnerable?



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**Together, we explore the
important concepts and
practices in Open Science and
apply them in our work
- one step at a time.**

Open by Design



A 2012 study of 160 tech companies found that the **level of strategic intent in openness** (not openness alone) correlates with **market performance**.



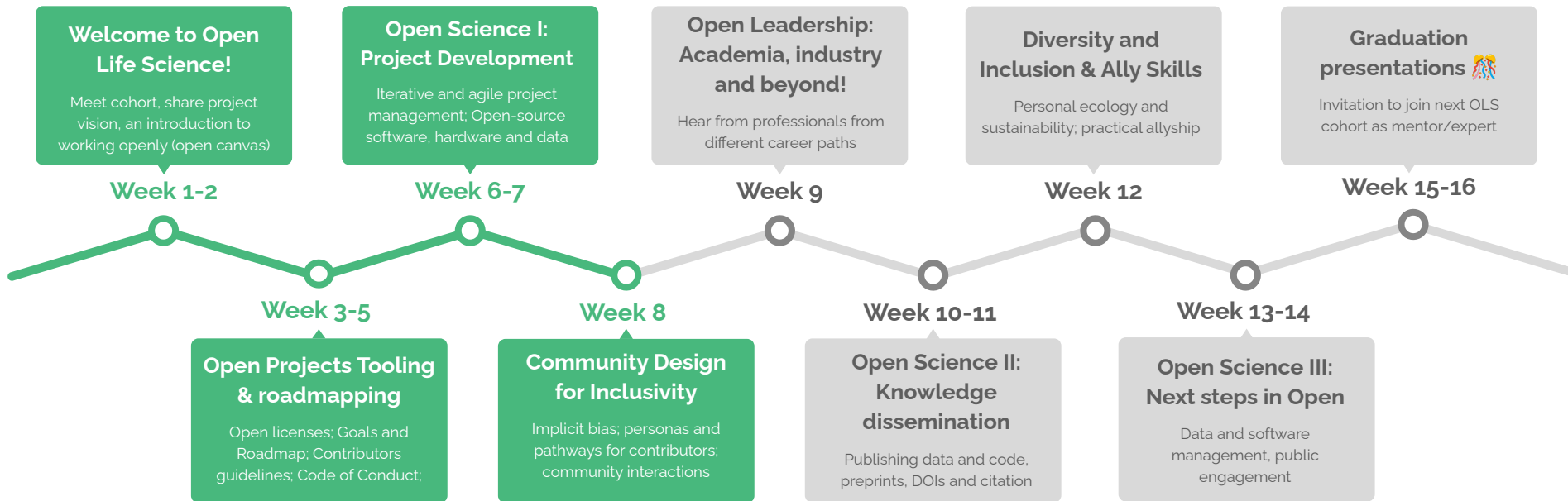
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Leading Edge Forum -
<https://blog.gardeviance.org/2013/02/openness-vs-strategy.html>

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Can we help?

- Encourage your community members to sign up for OLS-6
- One-off advice or discussion sessions
- In-house consultancy on mentoring programs, inclusive online calls, and ally skills workshops

 team@openlifesci.org

 <https://openlifesci.org>



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Bonus content

Diversity bug:

Can a visually impaired academic use your research software?

- [Do you know of statistical analysis software that is accessible for the blind? \(re: SPSS\)](#)
- My own experience - I can't enlarge text in NVivo, qualitative research software.

Thank you to Ismael Kherroubi Garcia for the SPSS example and other [twitter crowd contributors](#), [mastodon](#) 🐛



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Diversity bug:

In 2014, Apple launched the Apple Health app. It tracked blood alcohol, inhaler use, sodium intake...

But not periods.

Sources:

<https://www.theatlantic.com/technology/archive/2014/12/how-self-tracking-apps-exclude-women/383673/>

<https://www.theverge.com/2014/9/25/6844021/apple-promised-an-expensive-health-app-so-why-cant-i-track>

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