

AN UNCONVENTIONAL START:

HOW OPEN SOURCE

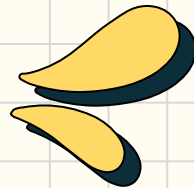
OPENED MY OPPORTUNITIES

Mars Lee, 14 September 2022

RSE Asia Australia Unconference

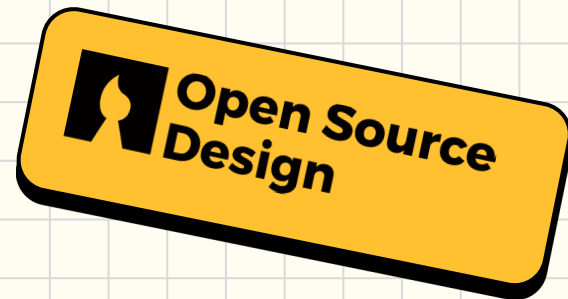
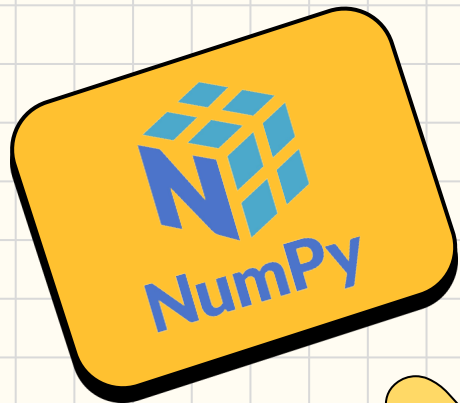
Early Career Keynote





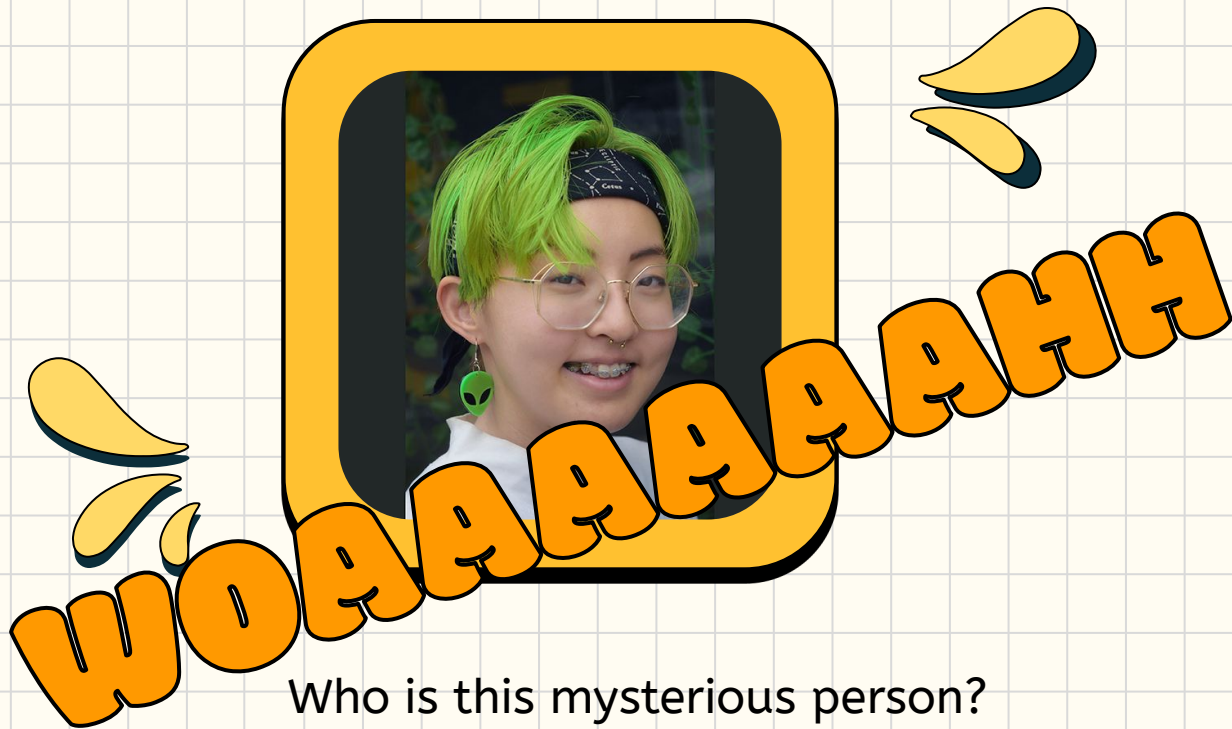
MARS LEE

Technical Illustrator at Quansight



MARS LEE

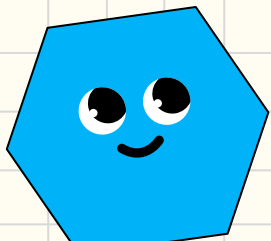
Open Source Contributor

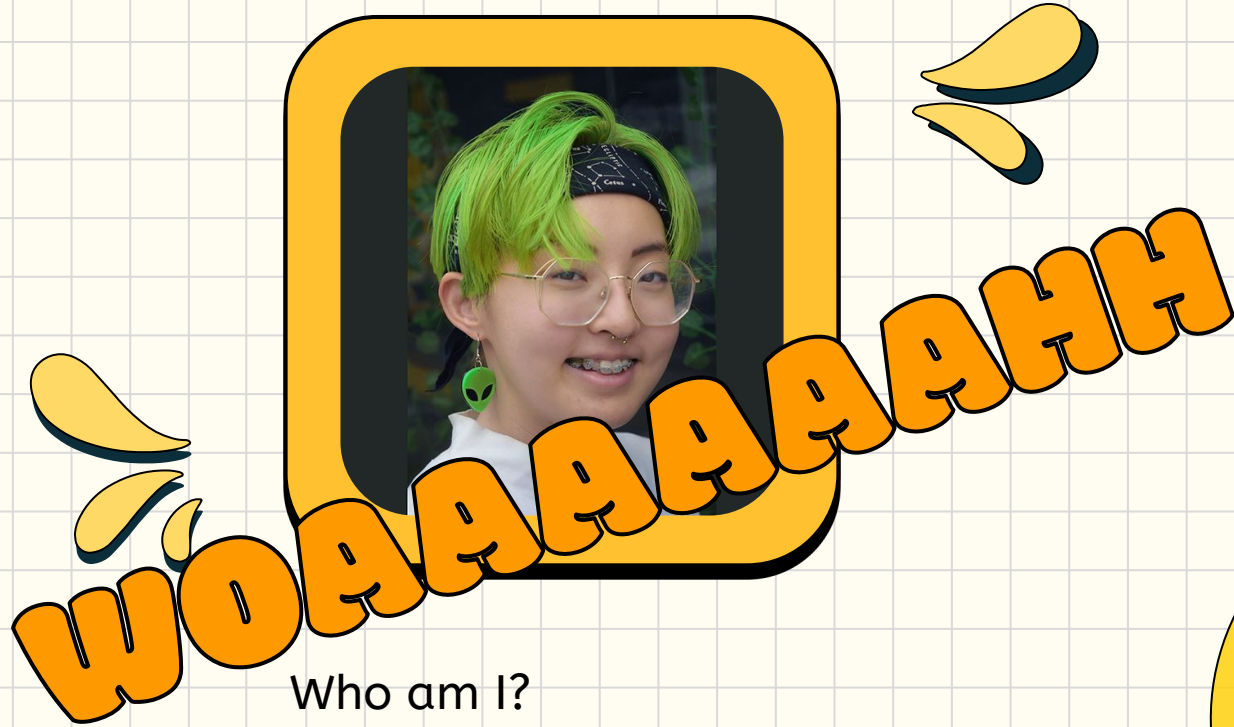


Who is this mysterious person?

Why are they giving a keynote?

What's a Technical Illustrator?

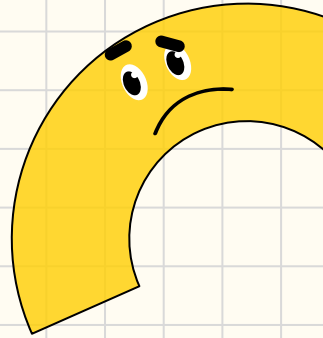




Who am I?

Am I qualified to give a keynote?

Yeah...What is a Technical Illustrator?



PURPOSE OF AN

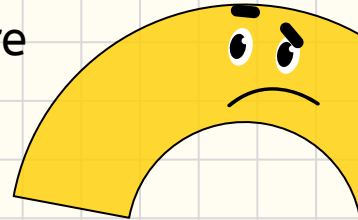
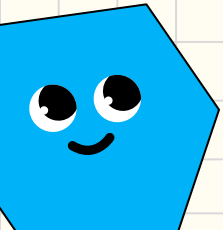
EARLY CAREER

KEYNOTE

Be ~ *inspirational* ~

Explain how you got here

Give advice so others can get where you are



PURPOSE OF AN

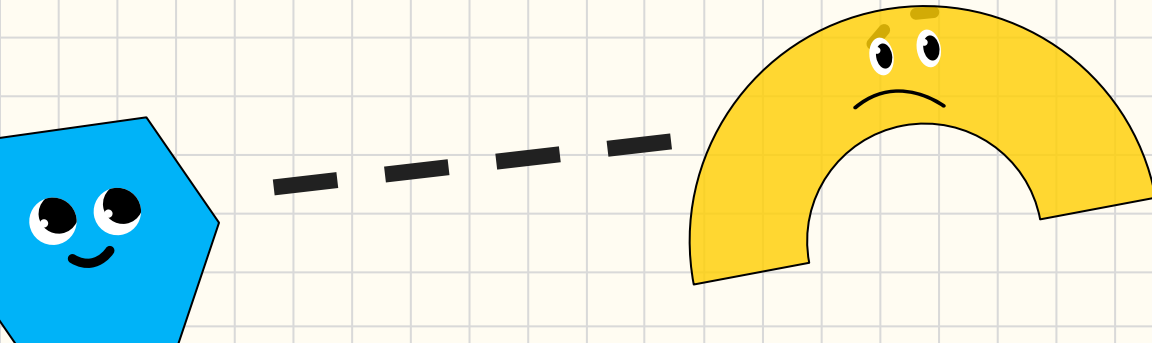
EARLY CAREER

KEYNOTE

What inspired me?

How did I get here?

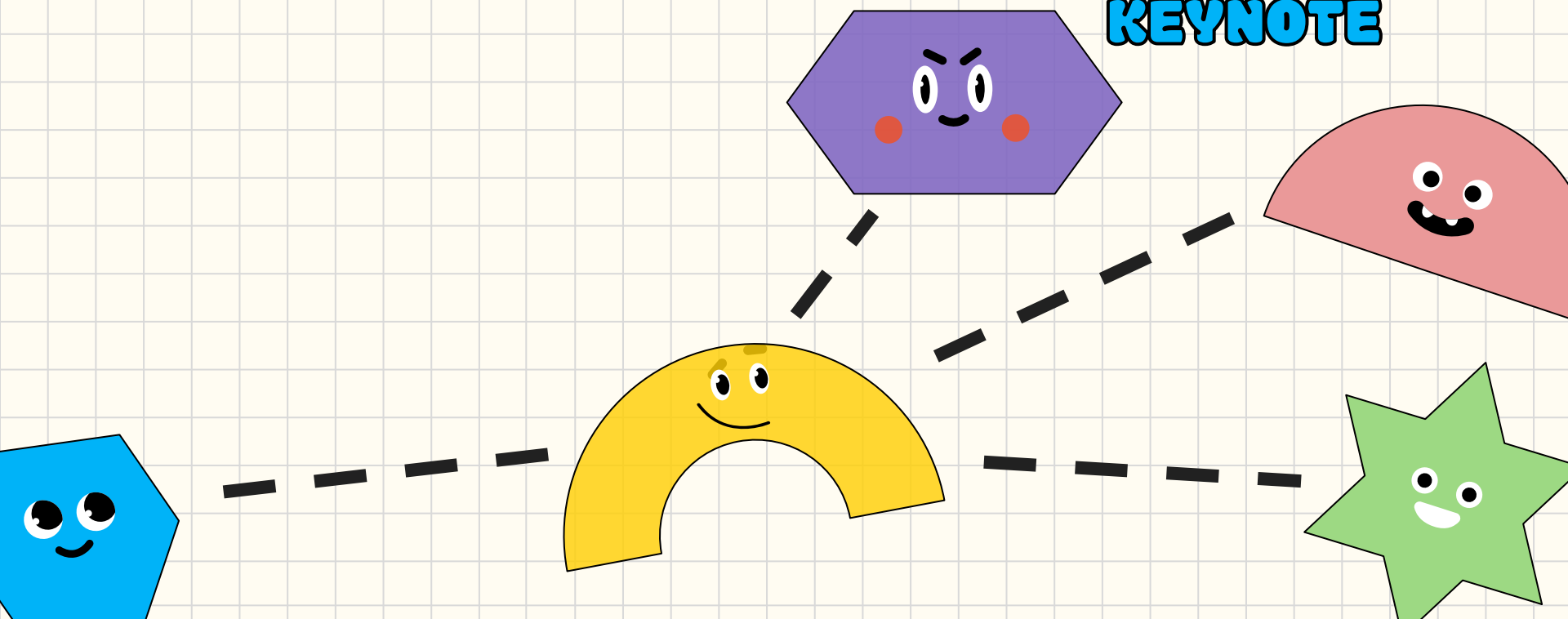
Who helped me?



PURPOSE OF AN

EARLY CAREER

KEYNOTE

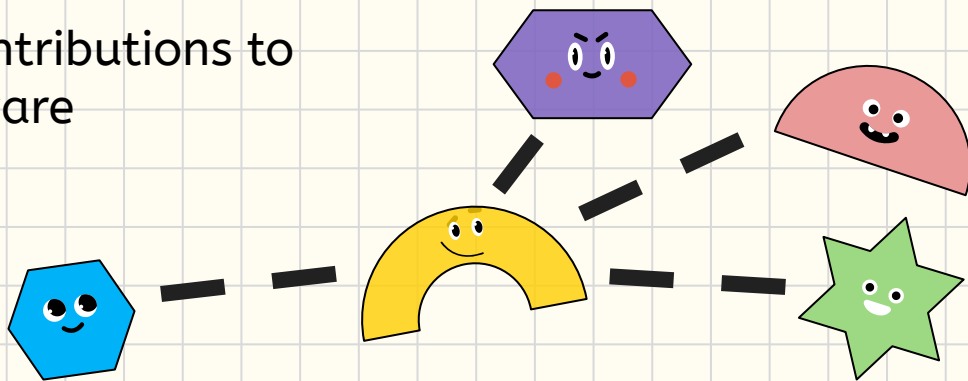


PURPOSE OF AN

EARLY CAREER

KEYNOTE

- Recognize community and mentorship as foundational to where I am today
- Connect newcomers to wonderful open source projects
- Encourage more diverse contributions to open source research software



OVERVIEW

01

MY UNCONVENTIONAL START

College drop-out. I have 0 PhDs!

02

OVERCOMING INSECURITIES

... what is an *artist* doing *here*?

03

FINDING STRENGTH AND SUPPORT

Understanding processes and getting comfortable!

04

MY UNCONVENTIONAL CONTRIBUTIONS

‘How to Write Alt Text’ Comics, NumPy Comics,
‘Your Contributor Adventure’ and more!

OVERVIEW

05

HOW YOU CAN START

Whether you have a Bachelor, Masters, PhD or none of the above!

06

OVERCOMING YOUR INSECURITIES

The secret: We're all figuring it out!

07

FINDING STRENGTH AND SUPPORT

Connect with fellow newcomers and mentors

08

YOUR UNCONVENTIONAL CONTRIBUTIONS

How can you contribute to open source *differently*?

01

MY UNCONVENTIONAL START

EXPECTED PROFILE

ME

Software Engineer



In academia



Knows the ins and out
of their favorite open
source software before
becoming a contributor



01

MY UNCONVENTIONAL START

EXPECTED PROFILE

Software Engineer



In academia



Knows the ins and out
of their favorite open
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01

MY UNCONVENTIONAL START



01

MY UNCONVENTIONAL START

ME

Artist



College drop-out



Google searched
“free alternative to
photoshop please?”



02

OVERCOMING INSECURITIES

ME

Artist



College drop-out



Google searched
“free alternative to
photoshop please?”



02

OVERCOMING INSECURITIES

ME

Different and equally
valuable skill-set

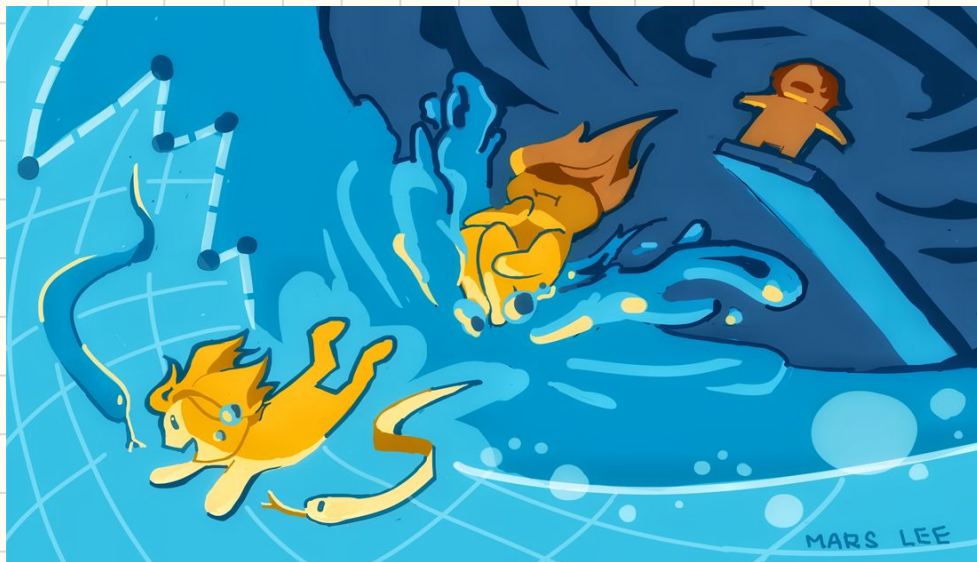


Not letting arbitrary
measures of success
determine what I can do



Everyday user of open
source software

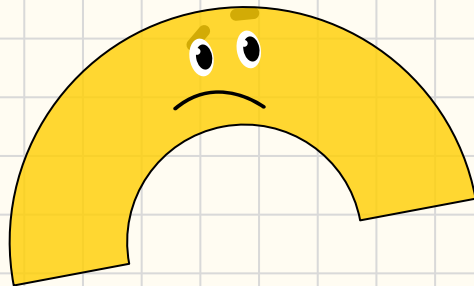
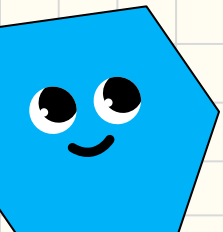




My Unexpected Dive into Open-Source Python
1 February 2020

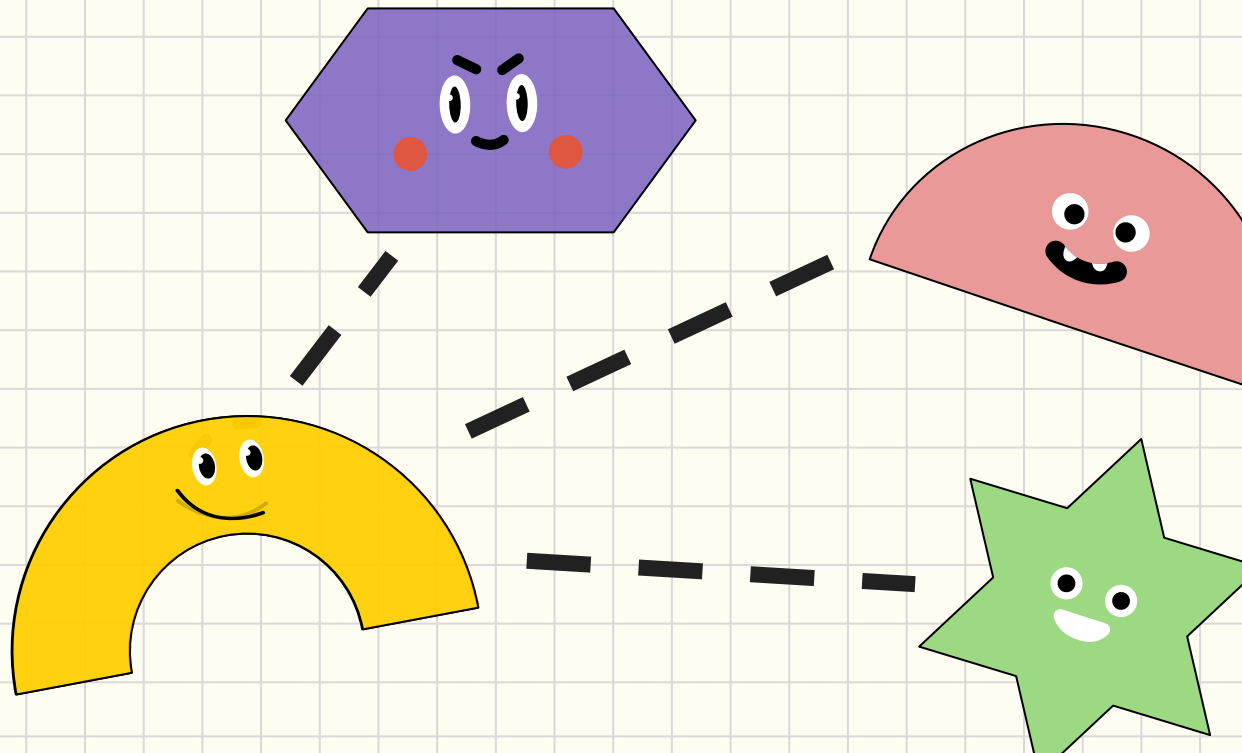
03

FINDING STRENGTH AND SUPPORT



03

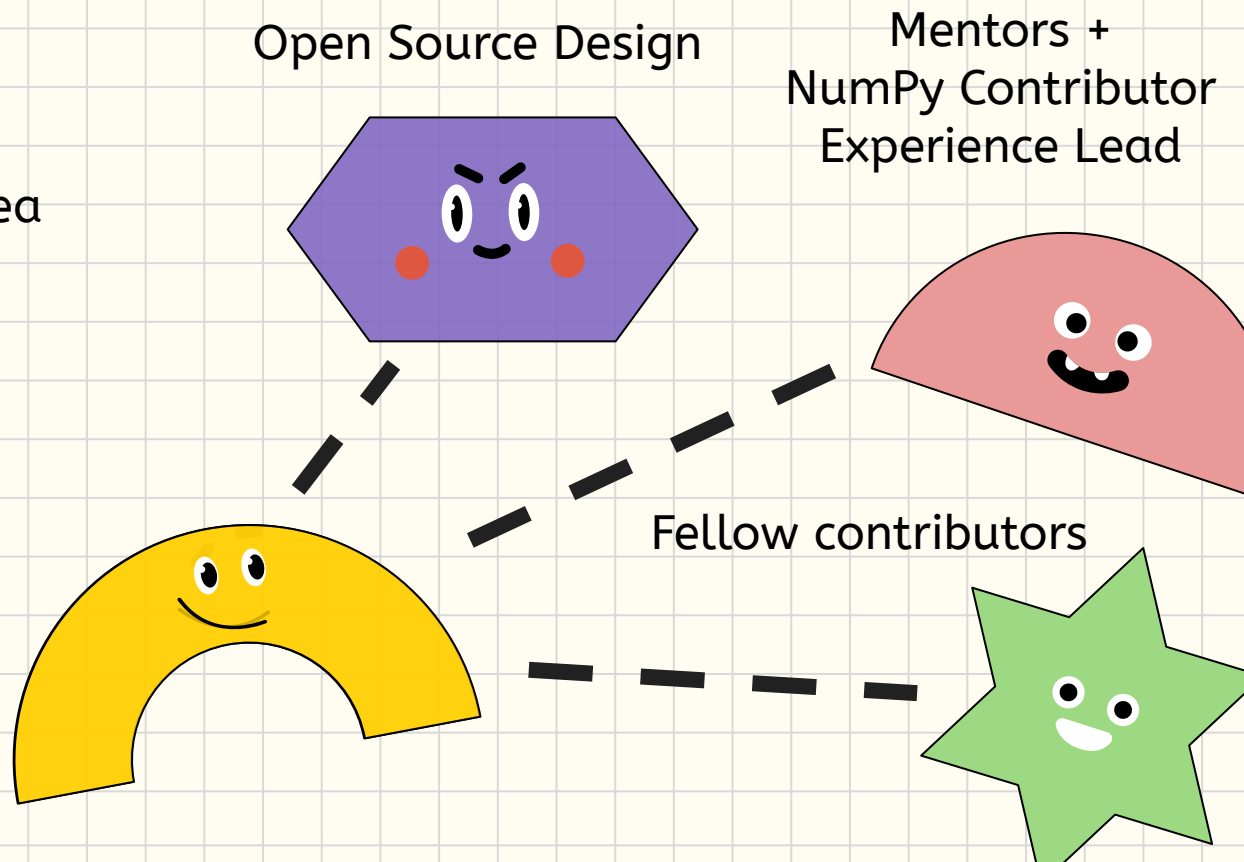
FINDING STRENGTH AND SUPPORT



03

FINDING STRENGTH AND SUPPORT

- Going to community calls (even when absolutely had no idea what was going on)
- Trying- and failing- and trying again to make my first contribution
- Asking for help



04

MY UNCONVENTIONAL CONTRIBUTIONS

ME

Different and equally
valuable skill-set



Not letting arbitrary
measures of success
determine what I can do



Everyday user of open
source software



04

MY UNCONVENTIONAL CONTRIBUTIONS

ME

Using art to communicate
what text or code cannot



Pushing open source
outside of academia-
public science



Expanding beyond the
'super-user-to-developer'
profile



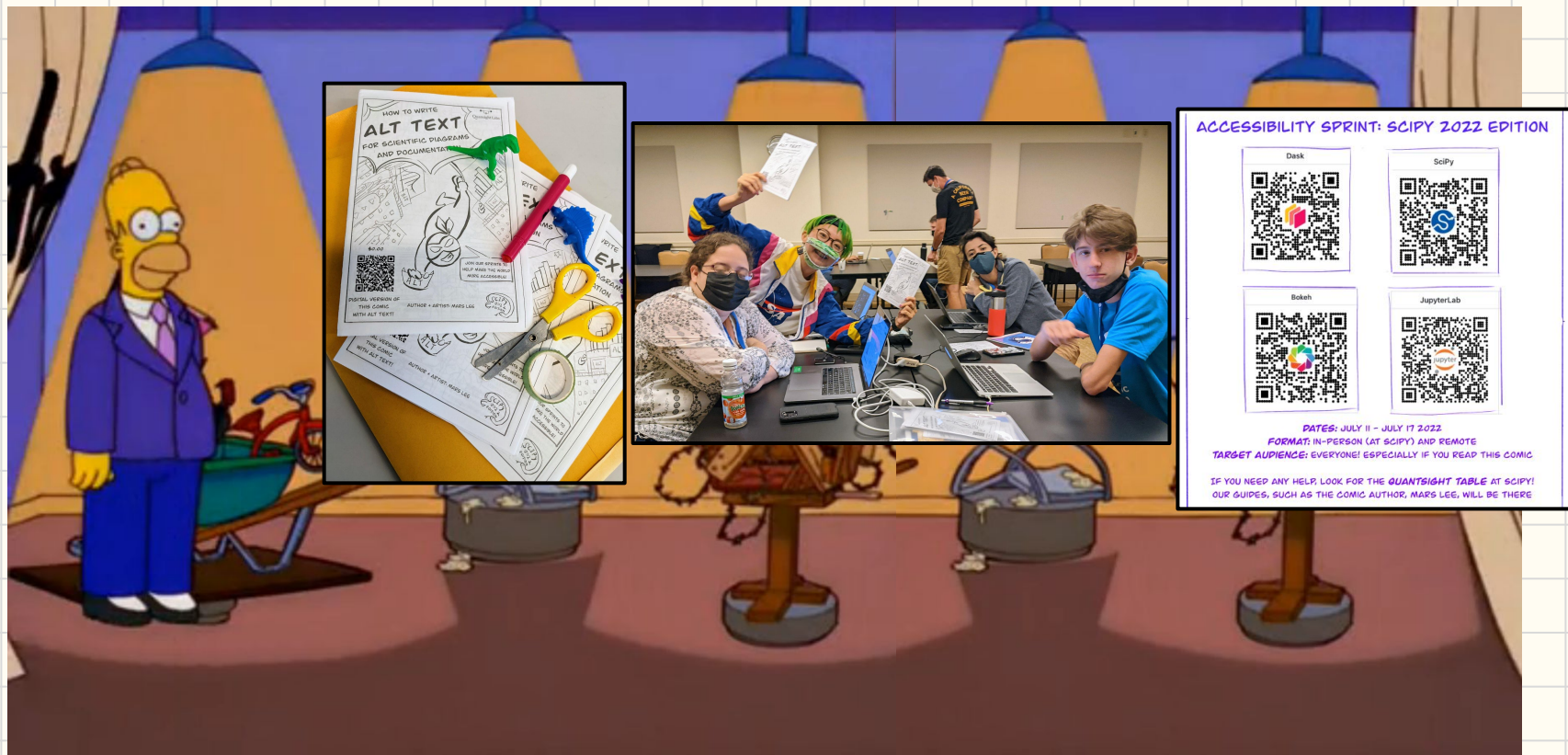
04

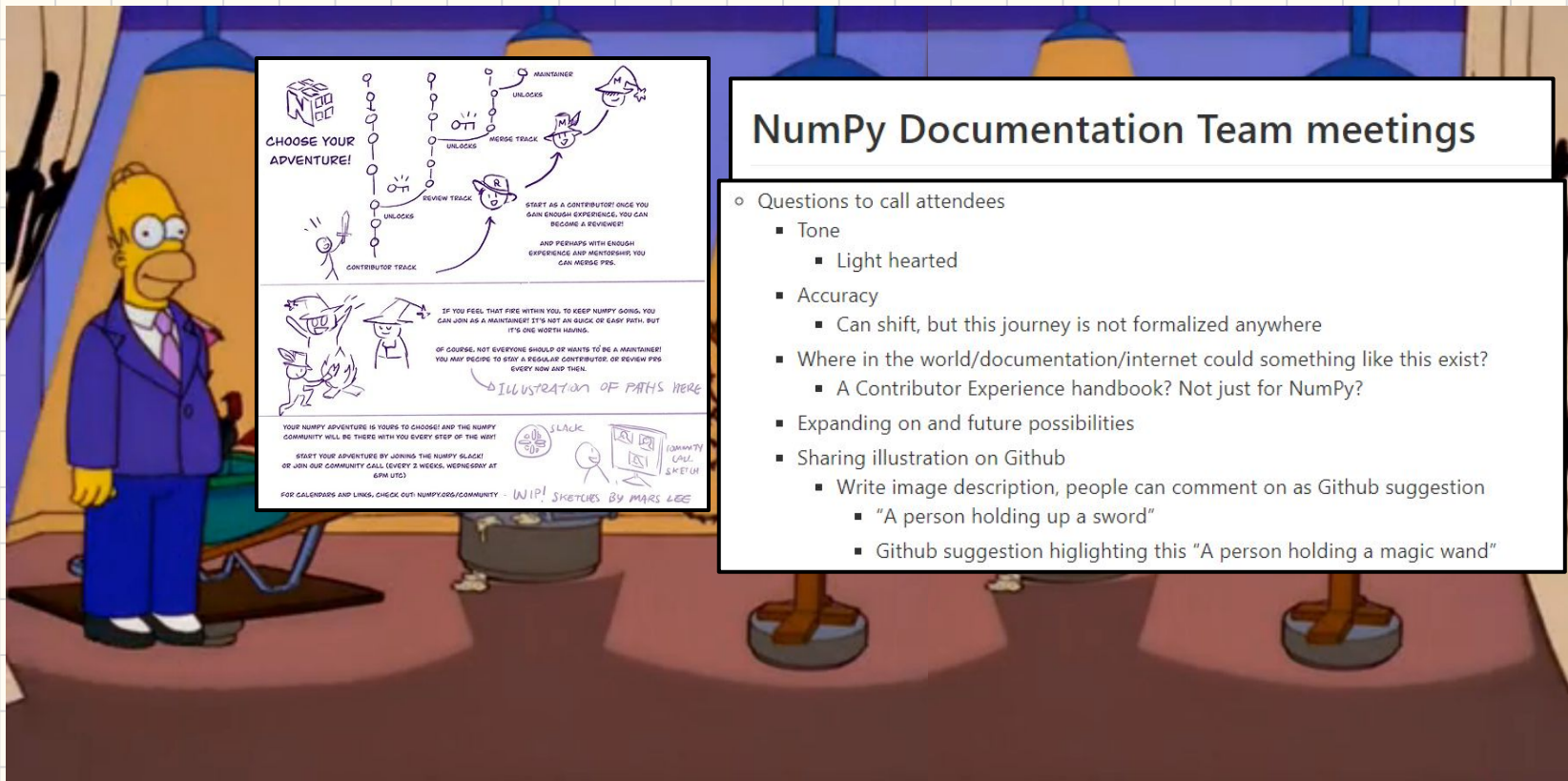
MY STRANGE CONTRIBUTIONS



04

MY STRANGE CONTRIBUTIONS





NumPy Documentation Team meetings

- Questions to call attendees
 - Tone
 - Light hearted
 - Accuracy
 - Can shift, but this journey is not formalized anywhere
 - Where in the world/documentation/internet could something like this exist?
 - A Contributor Experience handbook? Not just for NumPy?
 - Expanding on and future possibilities
 - Sharing illustration on Github
 - Write image description, people can comment on as Github suggestion
 - "A person holding up a sword"
 - Github suggestion highlighting this "A person holding a magic wand"

Handwritten Diagram: CHOOSE YOUR ADVENTURE!

The diagram illustrates three paths for contributing to NumPy:

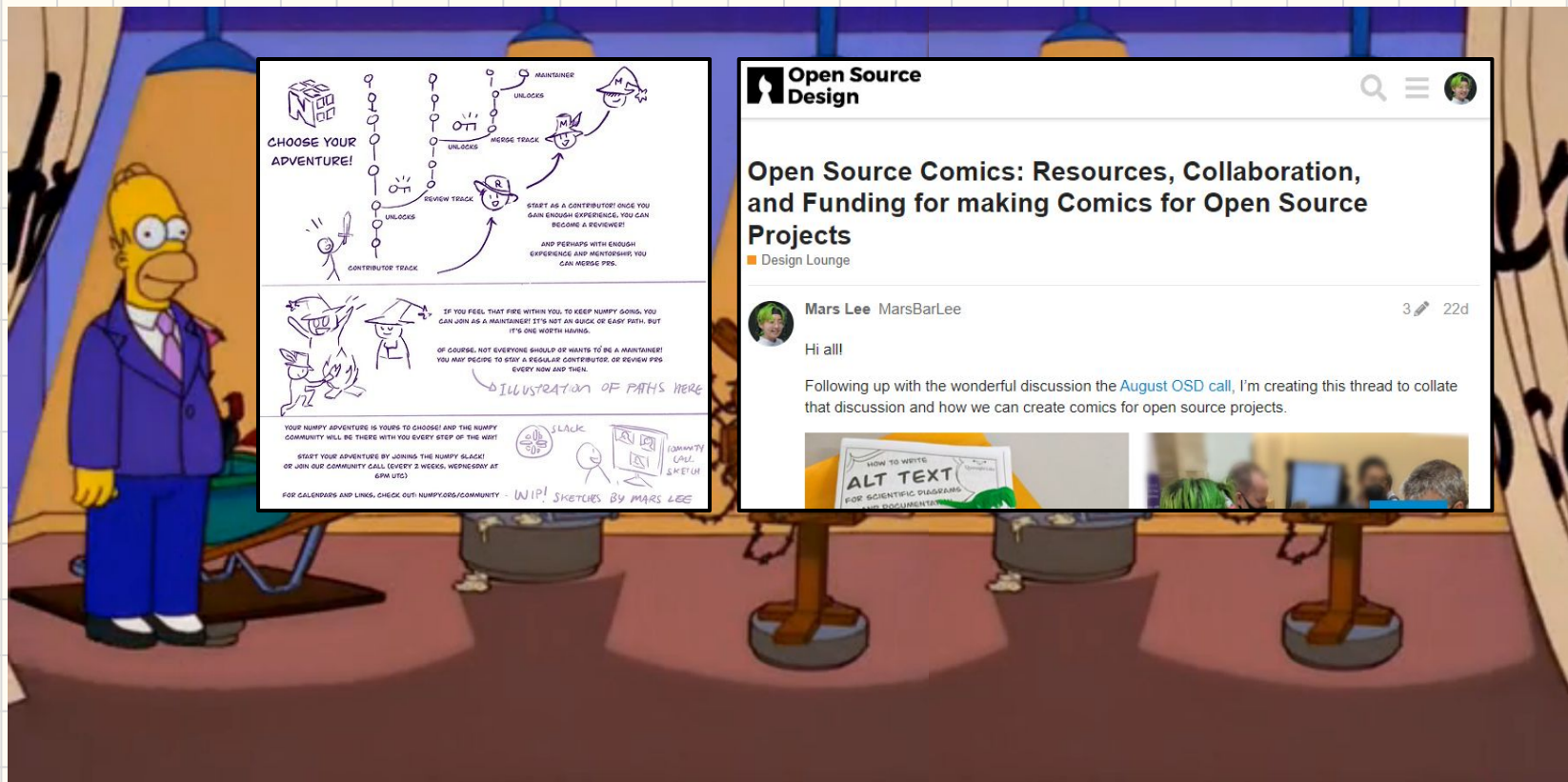
- CONTRIBUTOR TRACK:** Starts with a stick figure holding a sword. It leads to a series of 'UNLOCKS' (represented by lightbulbs) and then to a 'REVIEW TRACK' (represented by a person with a magnifying glass).
- REVIEW TRACK:** Leads to a 'MERGE TRACK' (represented by a person with a checkmark) and then to a 'MAINTAINER' (represented by a person with a crown).
- MAINTAINER:** Leads to a 'CONTRIBUTOR TRACK' (represented by a person with a sword) and then to a 'REVIEW TRACK' (represented by a person with a magnifying glass).

Text in the diagram:

- CHOOSE YOUR ADVENTURE!
- UNLOCKS
- MERGE TRACK
- REVIEW TRACK
- CONTRIBUTOR TRACK
- START AS A CONTRIBUTOR! ONCE YOU GAIN ENOUGH EXPERIENCE, YOU CAN BECOME A REVIEWER!
- AND PERHAPS WITH ENOUGH EXPERIENCE AND MENTORSHIP, YOU CAN MERGE PDS.
- IF YOU FEEL THAT FIRE WITHIN YOU TO KEEP NUMPY GOING, YOU CAN JOIN AS A MAINTAINER! IT'S NOT AN EASY OR EASY PATH, BUT IT'S ONE WORTH HAVING.
- OF COURSE, NOT EVERYONE SHOULD OR WANTS TO BE A MAINTAINER! YOU MAY DECIDE TO STAY A REGULAR CONTRIBUTOR, OR REVIEW PDS EVERY NOW AND THEN.
- ILLUSTRATION OF PATHS HERE
- YOUR NUMPY ADVENTURE IS YOURS TO CHOOSE! AND THE NUMPY COMMUNITY WILL BE THERE WITH YOU EVERY STEP OF THE WAY!
- START YOUR ADVENTURE BY JOINING THE NUMPY SLACK! OR JOIN OUR COMMUNITY CALL (EVERY 2 WEEKS, WEDNESDAY AT 6PM UTC)
- FOR CALENDARS AND LINKS, CHECK OUT: [NUMPY.ORG/COMMUNITY](https://numpy.org/community) - WIP! SKETCHES BY MARS LEE
- SLACK
- COMMUNITY CALL SKETCH

04

MY STRANGE CONTRIBUTIONS



A cartoon illustration of Homer Simpson standing in a museum. He is wearing a blue suit and a purple tie. He is holding a wheelbarrow containing a red bicycle. In the background, there are several large, glowing orange cones and a large, glowing orange sphere. A DNA double helix is visible in the background.

NUMFOCUS
10 YEARS
2012-2022

2nd draft (WIP)

Meeting Inessa, first draft, Aug 26 2022

- Mars progress so far on grant: Feel good about writing Summary, Description, Impact, Figuring out Budget with Rohit
- Involving educators
 - Level of involvement, formal involvement of Inessa?
 - Would she like to be a formal part of this grant? Or informally as NumPy Community member
 - As she is hired by NumFOCUS, can she?
 - Their interest in these projects, NumPy comics?
 - Aligning project timeline to school semester
 - Inessa mentioned a school fair/physical event to tie things in?

05

HOW YOU CAN START

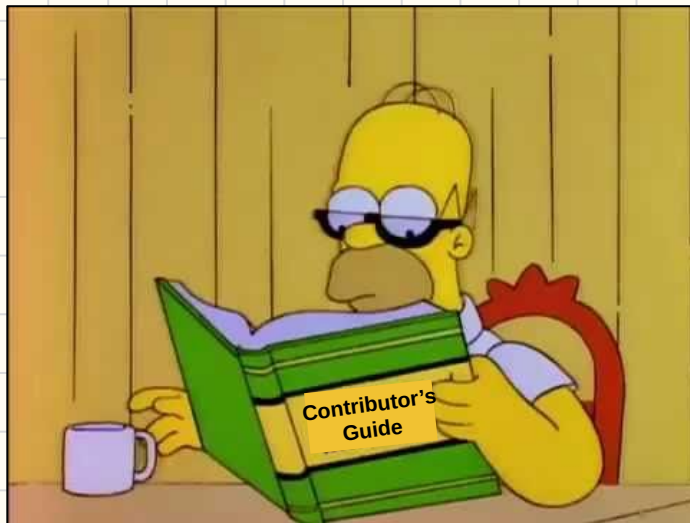
- If you already are a user of open source research software
 - **Think:**
 - How could this be better?
 - Could I make it better?



05

HOW YOU CAN START

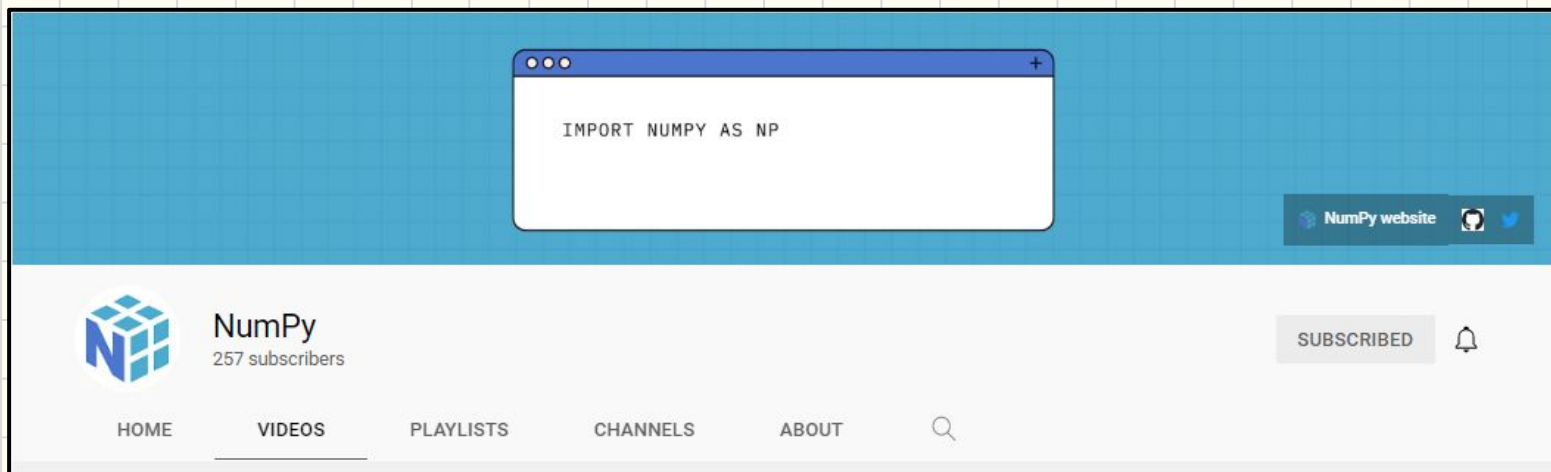
- If you already are a user of open source research software
 - **Check out:**
 - The project's contributor's guide
 - 'Good first issues' tag on Github



05

HOW YOU CAN START

- If you want to start but don't have a project in mind...
 - Join **NumPy Newcomer Hour!**
 - Every other Thursday, 2pm UTC
 - Alternates between hang out sessions and host talks
 - Talks on the NumPy Youtube Channel



05

HOW YOU CAN START

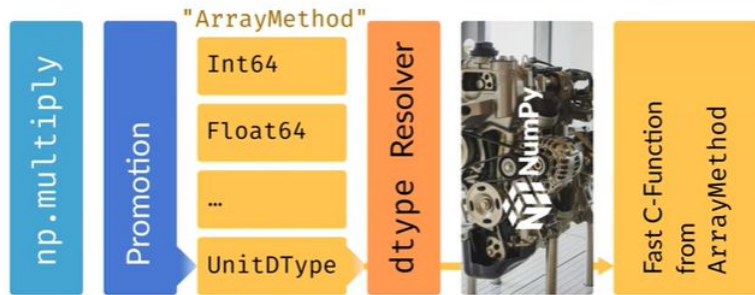
- If you want to start but don't have a project in mind...
 - Join NumPy Newcomer Hour!
 - Ufuncs and dtypes: new possibilities in NumPy

What is a UFunc?

3/9

```
arr1 = np.array([2*m])
arr2 = np.array([3*m])
res = np.multiply(arr1, arr2)
```

```
.dtype → "m"
        → "m"
        ← "m**2"
```



Let's make a UFunc: The "strided loop"

5/9

```
static int
unit_multiply_strided_loop(PyArrayMethod_Context *context,
                           char *const data[], npy_intp const dimensions[],
                           npy_intp const strides[], NpyAuxData *auxdata)
{
    npy_intp N = dimensions[0];
    char *in1 = data[0], *in2 = data[1];
    char *out = data[2];
    npy_intp in1_stride = strides[0];
    npy_intp in2_stride = strides[1];
    npy_intp out_stride = strides[2];

    while (N--) {
        *(double *)out = *(double *)in1 + *(double *)in2;
        in1 += in1_stride;
        in2 += in2_stride;
        out += out_stride;
    }
    return 0;
}
```

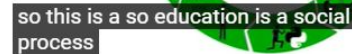
Return:

- success: 0
- error: -1

Important API addition!

HOW YOU CAN START

- this is my computational mechanics uh
open educational resource



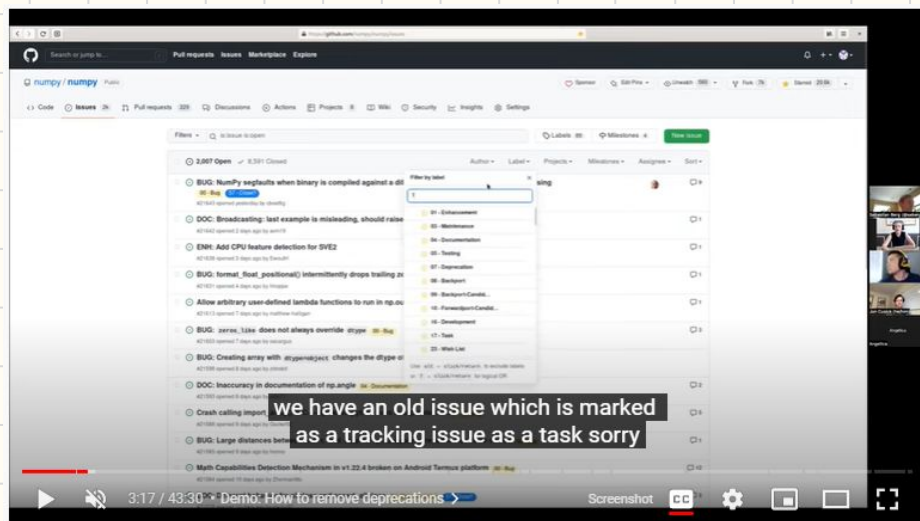
example: <https://looperc.github.io/computational-mechanics>

NumPy in the classroom :: Ryan C. Cooper

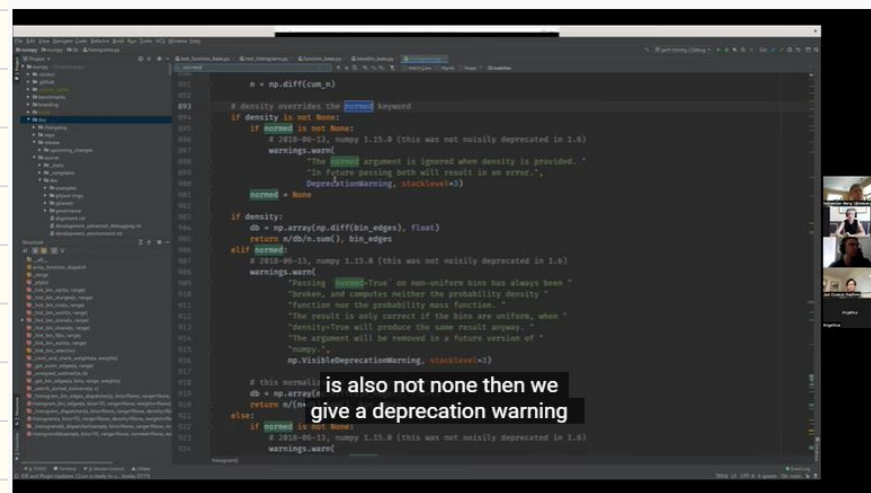
05

HOW YOU CAN START

- If you want to start but don't have a project in mind...
 - Join NumPy Newcomer Hour!
 - Maintaining NumPy: Deprecations



Maintaining NumPy: Deprecations :: Sebastian Berg



Maintaining NumPy: Deprecations :: Sebastian Berg

05

HOW YOU CAN START

- If you want to start but don't have a project in mind...
 - Creating Timestamps for NumPy's videos
 - @Bennykillua!

Create timestamps-2022-04-10.md #Issue18 #21

Merged InessaPawson merged 6 commits into `numpy:main` from `Bennykillua:patch-2` on Jun 30

Conversation 2 Commits 6 Checks 0 Files changed 1



Bennykillua commented on Jun 25 • edited by InessaPawson

Contributor

Create timestamps-2022-04-10 for [Making NumPy accessible with community workshops : Mars Lee]
(<https://www.youtube.com/watch?v=jl4pax8HX6c>)

This resolves #18. @InessaPawson



Let's Talk Technical Writing
(@writefortech) / Twitter

What's technical writing? 🖋️ Join our bi-weekly Twitter spaces to find out.



Host @wonexo Co-host @KwennB & @Bennykillua & @Victor_codejs 🎤



Mars Lee
Technical Illustrator Quansight

Select date and time

1-on-1 with Mars Lee 📅 🟢

Let's talk about open source and design! I'm in the NumPy and Open Source Design communities.

45 min

Google Meet

September 2022						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17

My future blog post: How Technical Illustrators can work hand-in-hand with Technical Writers

- I'll message you once I start writing this

05

HOW YOU CAN START

- If you want to start but don't have a project in mind...
- - Write **Meeting Notes** for the NumPy Community Call
- - Currently, that's me!
- - Soak up like a sponge: Get to know the contributor workflow, reviewers and maintainers before making your first contribution



The screenshot shows a GitHub file viewer interface. At the top, it indicates the file has 119 lines (95 sloc) and is 8.57 KB. The file name is "2022-08-31 NumPy community meeting". Below the title, the section "Follow-up from last meeting / discussions" is highlighted. The content includes a reference to previous meeting notes and a list of two bullet points: one about the "Zones of Contribution project board" and another about the transition of numpy.org from Google Analytics to Plausible.

```
119 lines (95 sloc) | 8.57 KB
```

2022-08-31 NumPy community meeting

Follow-up from last meeting / discussions

For the notes from the previous meeting, visit:
https://github.com/numpy/archive/blob/main/community_meetings/community-2022-08-17.md

- [name=Meekail/Melissa/Inessa] Zones of Contribution project board to start forming cohesive groups of issues/tasks (also see the notes above).
- [name=Inessa] numpy.org has fully transitioned from Google Analytics to Plausible.

06

OVERCOMING YOUR INSECURITIES

ME

Github account



Social media accounts

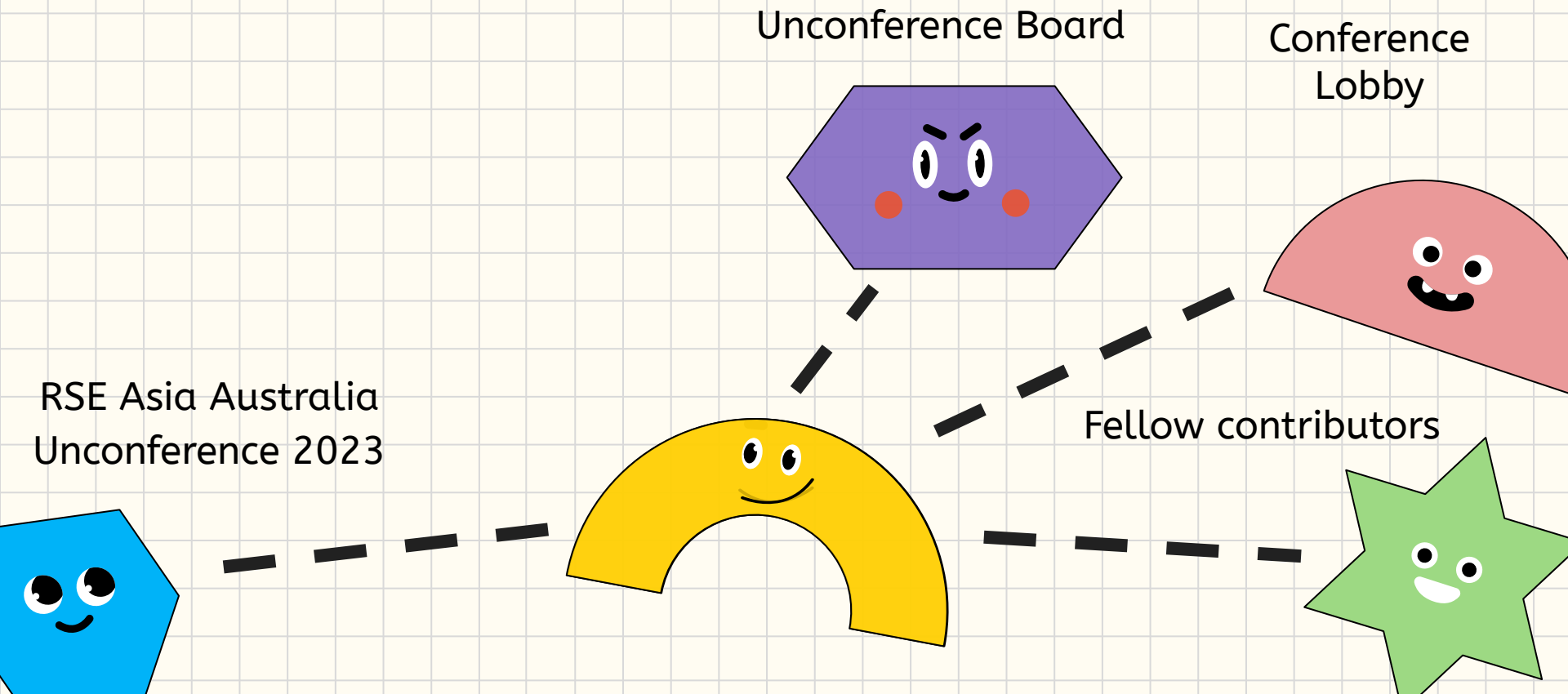


Personal website



07

FINDING STRENGTH AND SUPPORT



YOU

Your current skills + the
skills you want to grow



The research and research
software you want to see in
the world

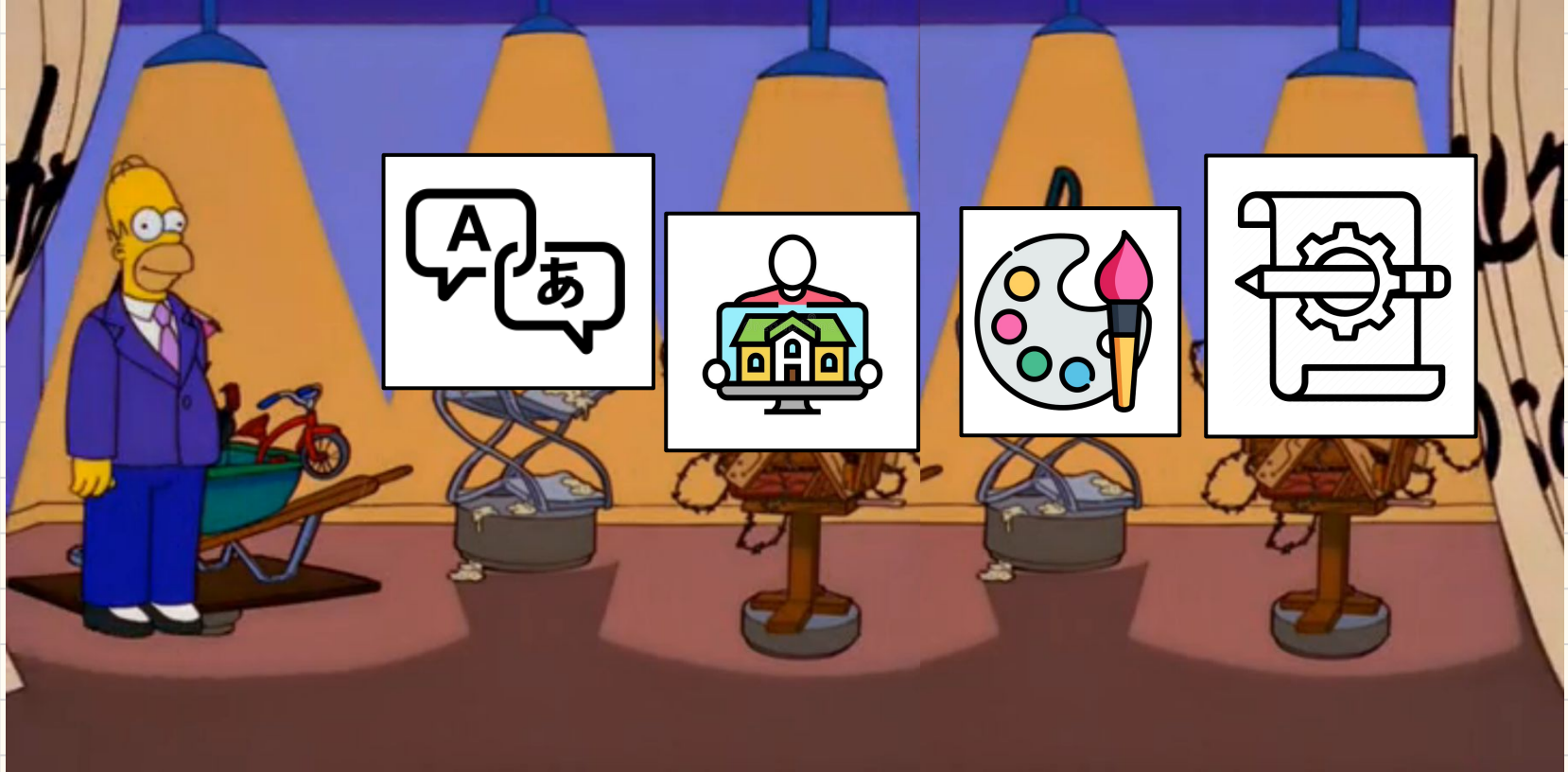


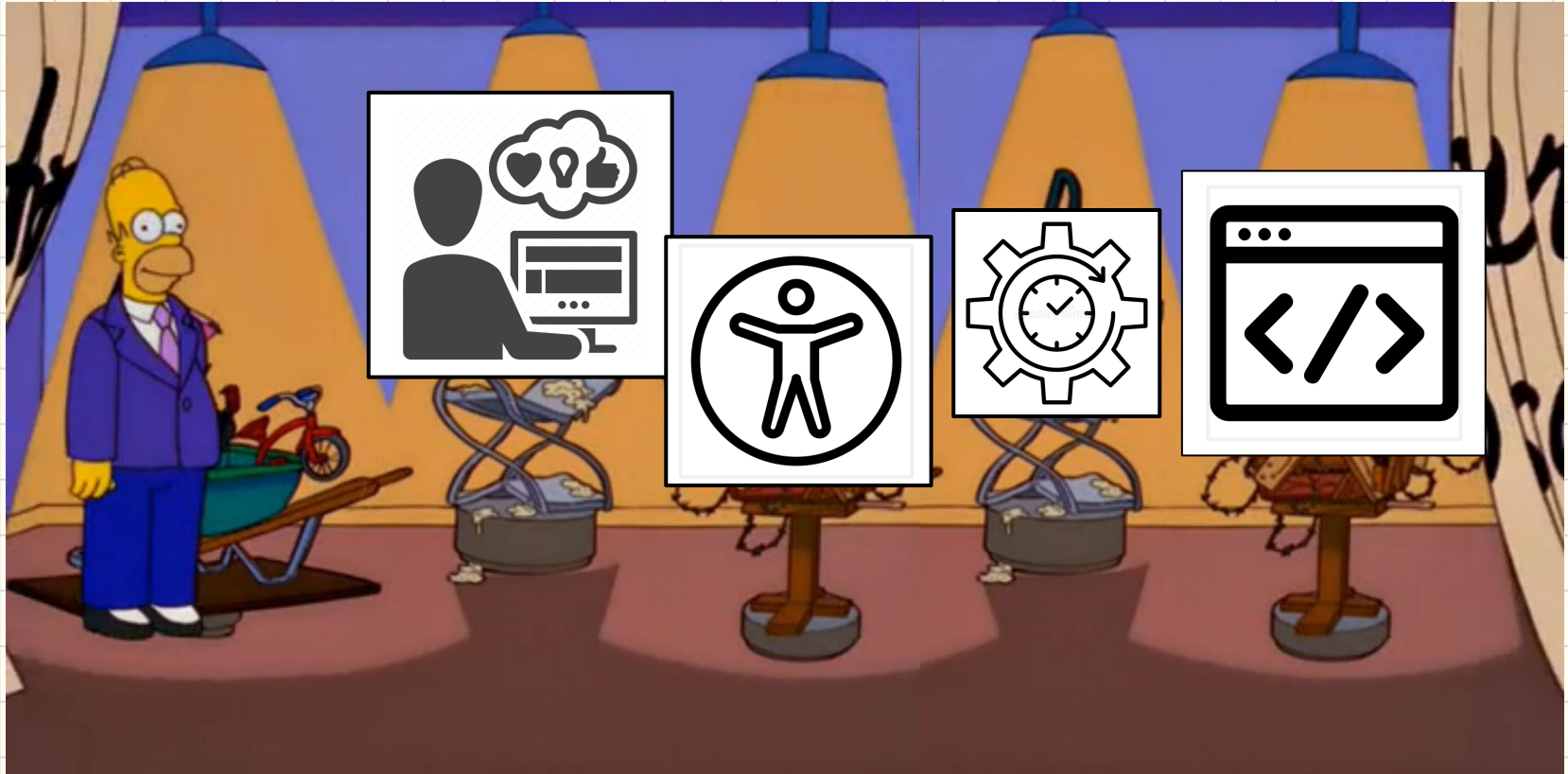
Connecting with open
source community



08

YOUR UNCONVENTIONAL CONTRIBUTIONS





08

YOUR UNCONVENTIONAL CONTRIBUTIONS

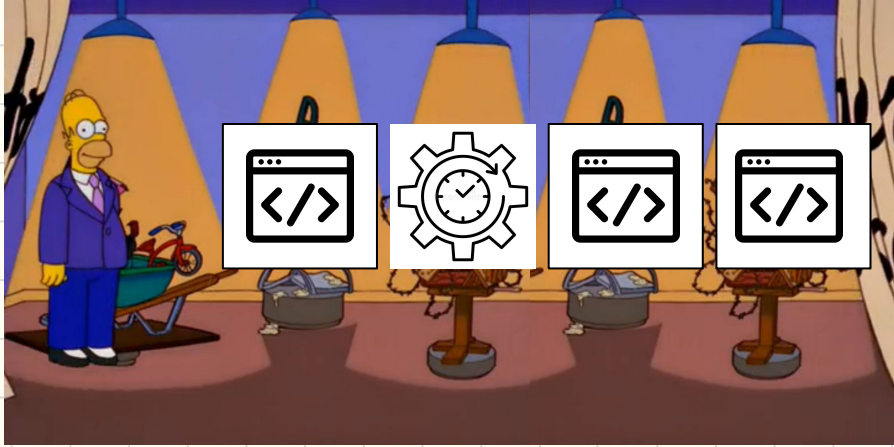
Recognize my privileges:

- Compensated for my open source work
- Live in North America, part of the Global North
- No dependents



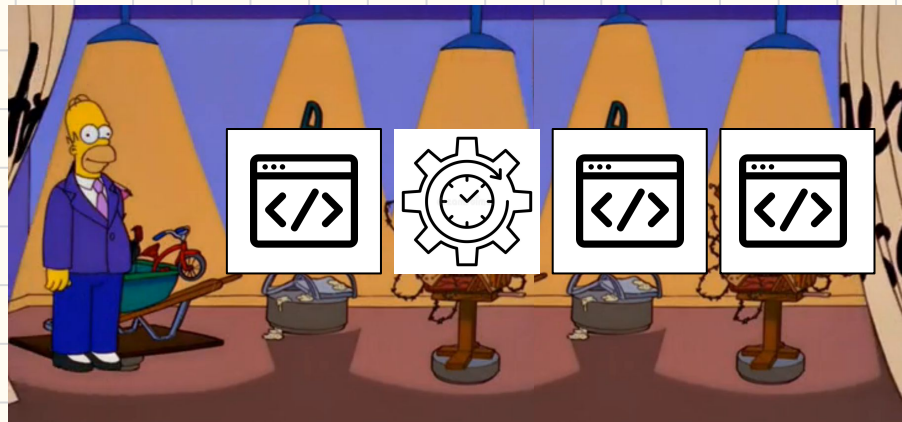
08

YOUR UNCONVENTIONAL CONTRIBUTIONS



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YOUR UNCONVENTIONAL CONTRIBUTIONS



AN UNCONVENTIONAL START:

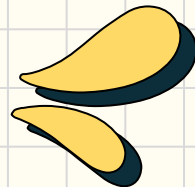
HOW OPEN SOURCE

WILL OPEN YOUR OPPORTUNITIES





THANK YOU!



Thank you to:

RSE Asia Australia

Unconference Organizers

- Saranjeet Kaur
- Paula Martinez

NumPy Community

- Melissa Weber Mendonça
- Inessa Pawson

Open Source Design community

- Belén Barros Pena
- Eriol Fox, Bernard Tyers, Jan Dittrich, Juhan Sonin and more!

Credits: This presentation template was created by Slidego,
including icons by Flatiron, and infographics by Freepik

LET'S CONNECT!



@marsbarlee



[linkedin.com/in/mars-lee/](https://www.linkedin.com/in/mars-lee/)

mlee@quansight.com

- Email me if you like to book a short meeting with me!

