

How to engage Python contributors in the long term?

Tech is easy.
People are complex.

Pycon US 2019, Cleveland

Victor Stinner



redhat[®]

Python is all about code

~~Python is all about a code~~

LIAR

Python is
about people



Burnout

Burnout

- February 2018
- Unsubscribed from 7 Python mailing lists
- Closed all my pull requests
- Notifications → /dev/null
- Doctor → One month off
- No commit for 3 months $\frac{1}{2}$

Burnout

Previous
typical
INBOX:

PyBB (15)

PyBPO (25)

PyBZ (114)

PyCommitters (1)

PyCoreMentor

PyDev (3)

PyGitHub (5)

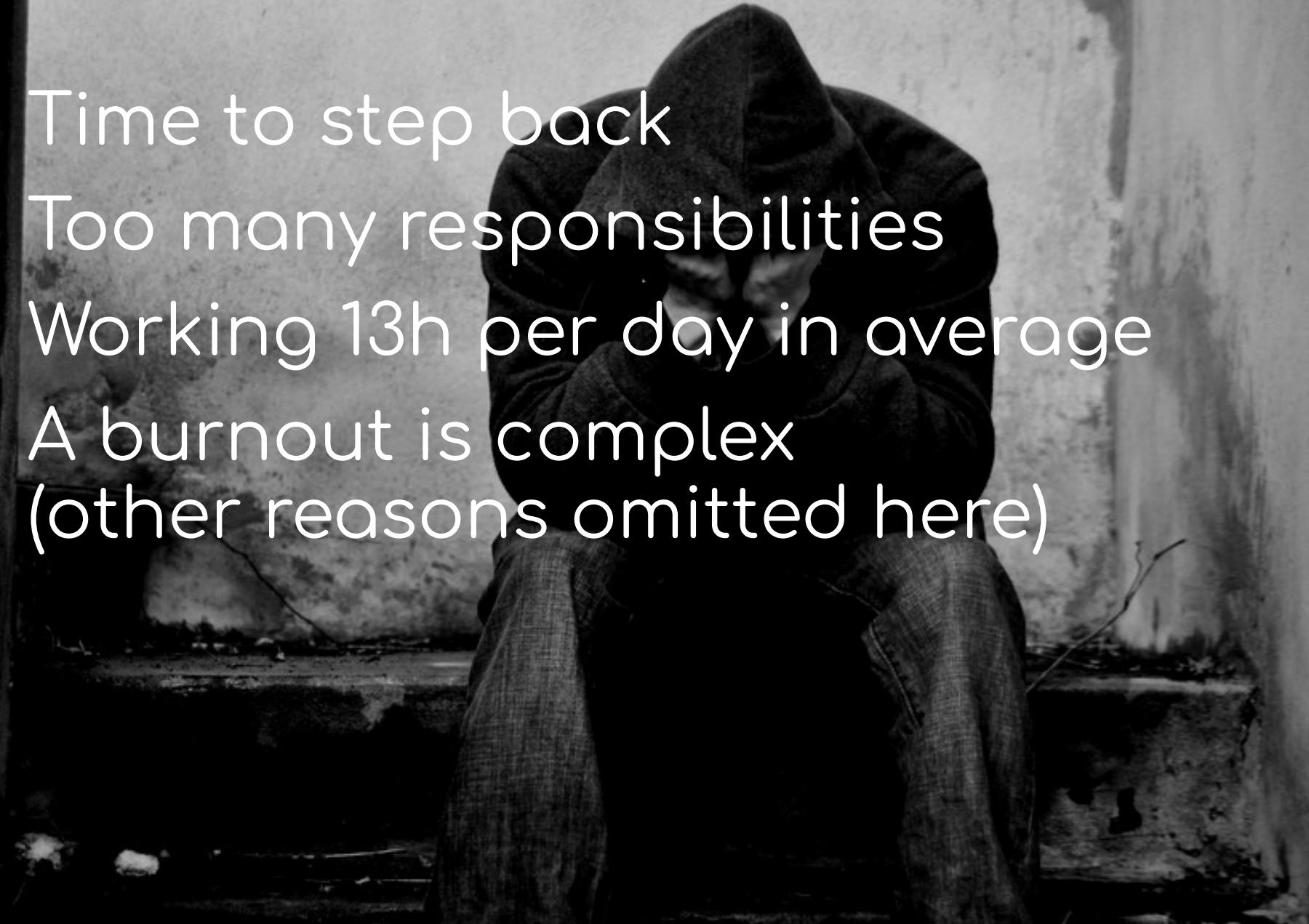
PyMaint (115)

PySecurity (1)

PythonList

Burnout

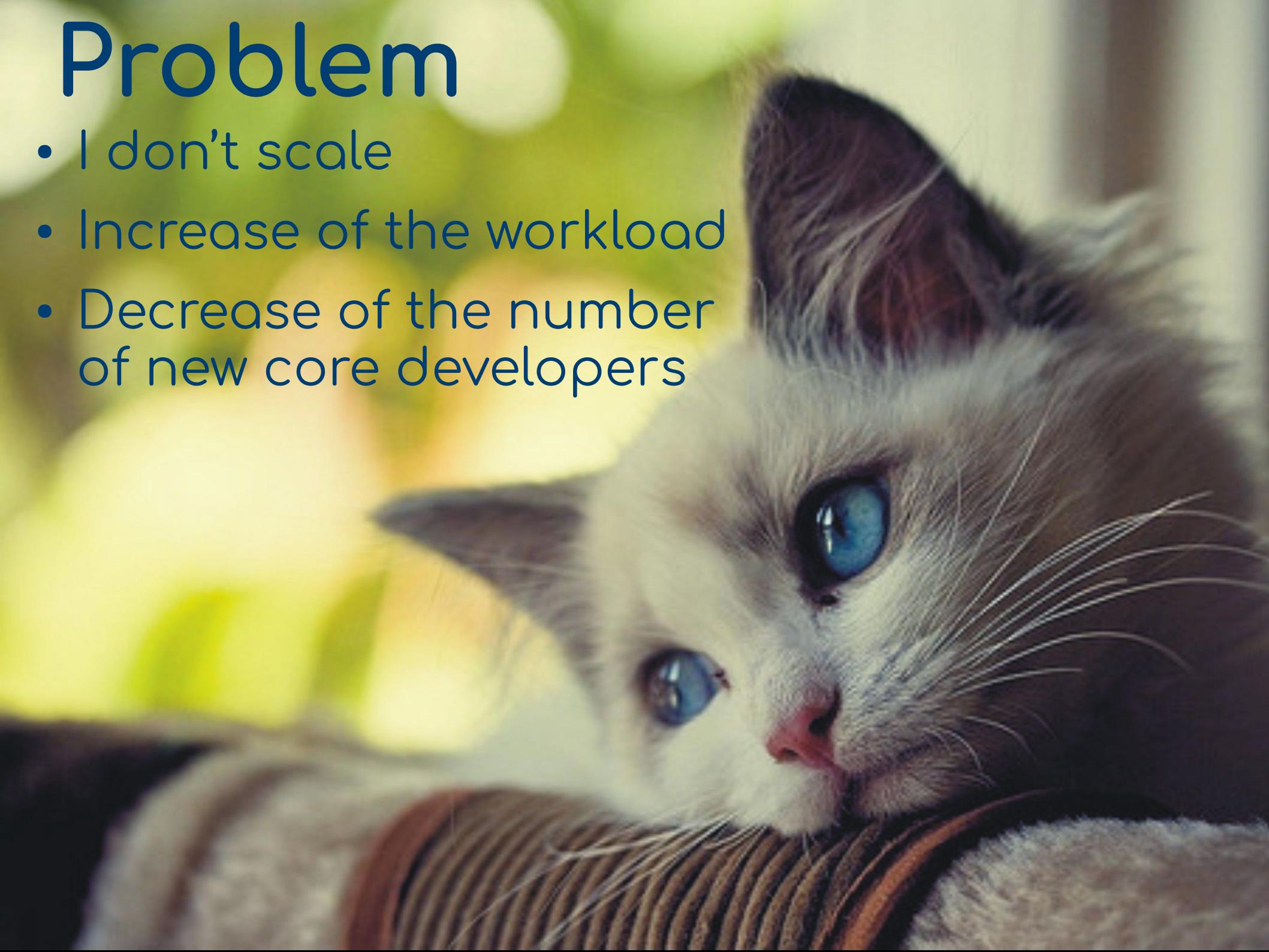
- Time to step back
- Too many responsibilities
- Working 13h per day in average
- A burnout is complex
(other reasons omitted here)



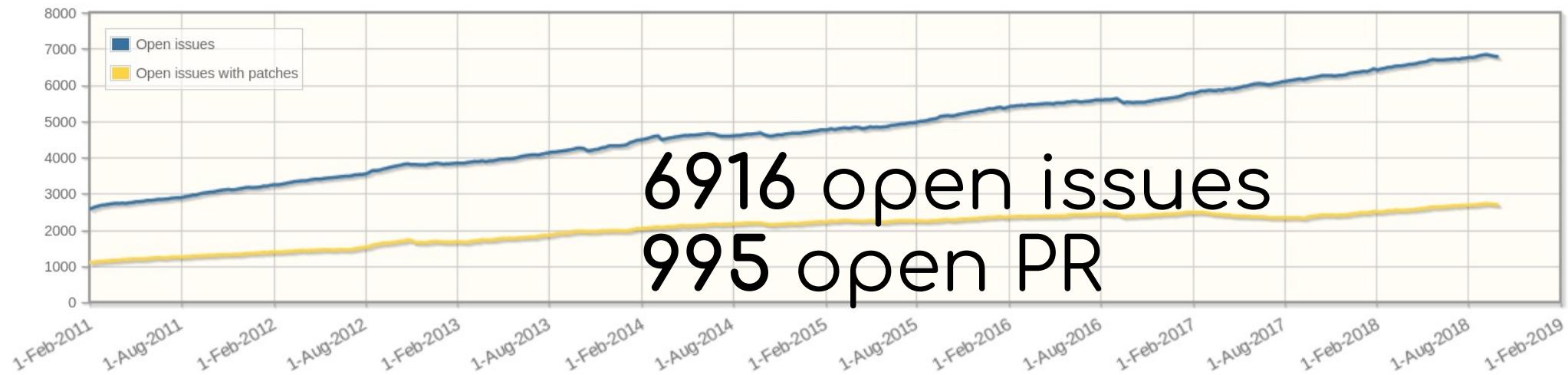
Open Source

Problem

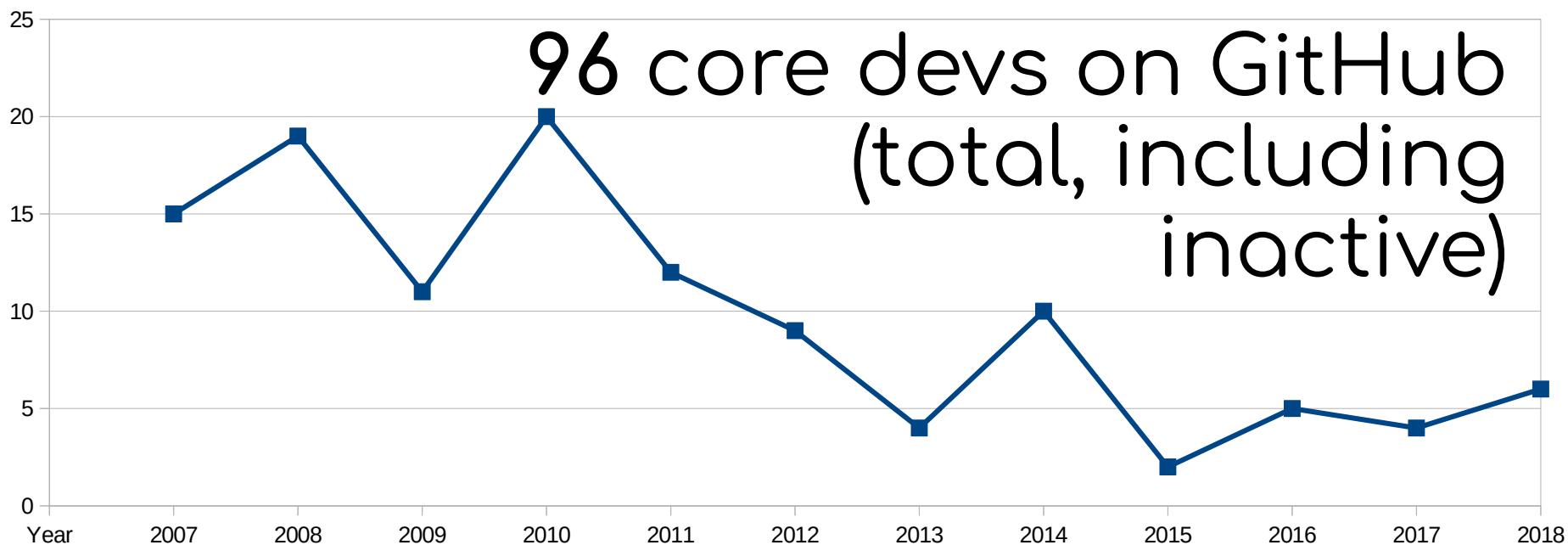
- I don't scale
- Increase of the workload
- Decrease of the number of new core developers



Open issues (2011-2018)



New core devs per year (2007-2018)



How you think Open Source apps are maintained



How Open Source apps are really maintained



“We are all volunteers”

- Contributors give their free time to Python: evenings, weekends, maybe also part of their nights.
- Trade time between family/friends and Python.
- Few employers allow to contribute to Python upstream.



“We are all volunteers”

- Red Hat: I (Victor) am paid full time.
- Microsoft: **Brett Cannon, Barry Warsaw, Eric Snow, Steve Dower** have one day per week.
- Dropbox: **Guido van Rossum** ($\pm 50\%$).
- Cuttlesoft: **Emily Morehouse** (1 day/week).
- **Neil Schemenauer, INADA Naoki** (± 1 day/week).
- → **2.9 full time dev**
- TIOBE: Python is #3

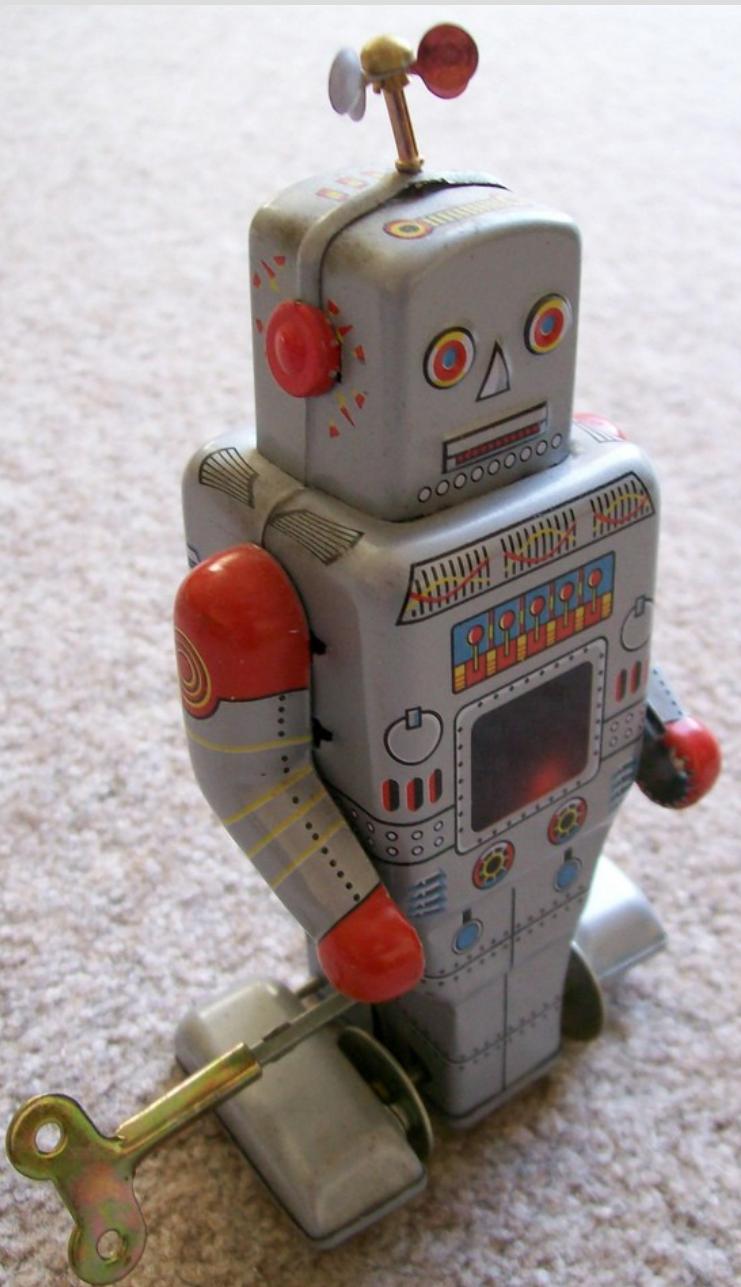




PLEASE MERGE ME

“Think of a contribution like a puppy: you might view it as this cute, wonderful thing you're giving me while I'm looking at it as over a decade of feeding, walking, and vet bills.” – Brett Cannon

Past Actions



- Developer Guide
- Migrate to Git on GitHub
- CI Linux and Windows run on pull requests
- ... core devs remain the bottleneck

“You can’t solve people problems with software.”
– Baldur Bjarnason

There is no public complain,
so there is no diversity problem!

Diversity



“When women speak out about diversity and the community, they **get penalized** and **branded as non-technical**. Some women chose **not to speak** out because of this. **We will not be silenced.**” – Mariatta Wijaya

Diversity



Toxicity

- Attack a person, rather than their arguments
- Attack in public space or private space
- Bullying
- Misogyny
- Racism



I modified 7 lines...
(doc & comments)

- # **master pattern** object
+ # **main pattern** object
- in **master process** and freeze before fork ...
+ in **parent process** and freeze before fork ...
- multiprocessing: stop the **master process** somehow
+ multiprocessing: stop the **parent process** somehow
- # This method (and its **pliant slaves**, like 'finalize_unix()'
+ # This method (and its **helpers**, like 'finalize_unix()',
- # OptionParser: create the **master option mappings**
+ # OptionParser: create the **main option mappings**
- # test_ssl: Force different suites on **client and master**
+ # test_ssl: Force different suites on **client and server**
- buildbot Batchfiles for running on Windows **buildslaves**.
+buildbot Batchfiles for running on Windows **buildbot workers**.

- 30+ articles in 1 week: The Register, Russia Today, Breitbart, developpez.com, Hacker News, Motherboard VICE, Slashdot, 4chan, OSChina, Twitter, Weibo, ...
- English, Russian, Japanese, Mandarin, German, French, Czech, ...
- Mention my full name and my employer
- Slashdot: 1200 comments in 2 days

"Fuck you Victor Stinner.
You're the enemy of /g/
now. Eat shit. I'll probably
make a video about this
gay shit."

- Anonymous, 4chan

"I would like him dead."
- Anonymous, 4chan

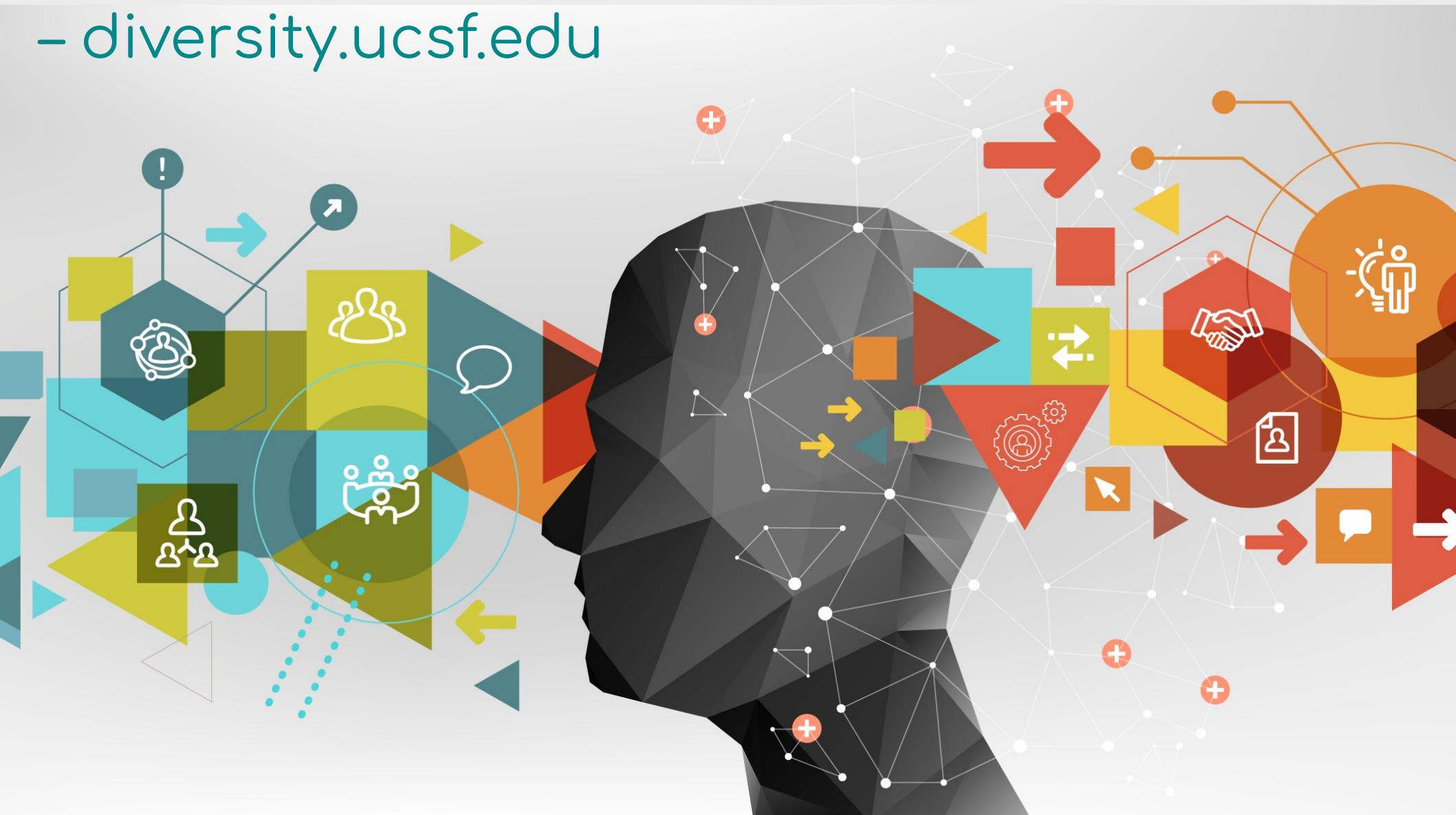
...
short
break
with
an
adorable
panda
...



Diversity Solutions

"Unconscious biases are social stereotypes about certain groups of people that individuals form outside their own conscious awareness."

- diversity.ucsf.edu



A study on machine learning used to predict future crimes shows that machine learning is biased against blacks.

Subsequent Offenses:
3 drug possessions

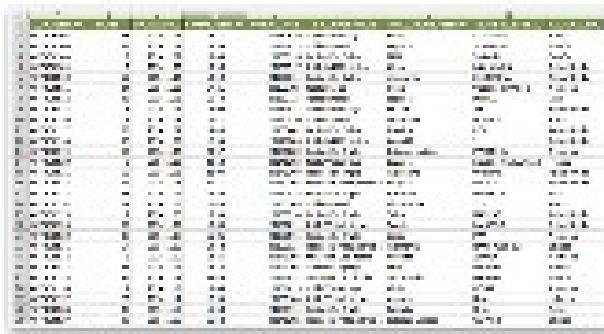


Subsequent Offenses:
None

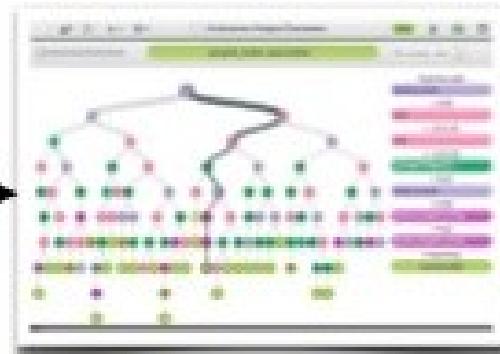
<https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>

Machine Learning

Historical Data



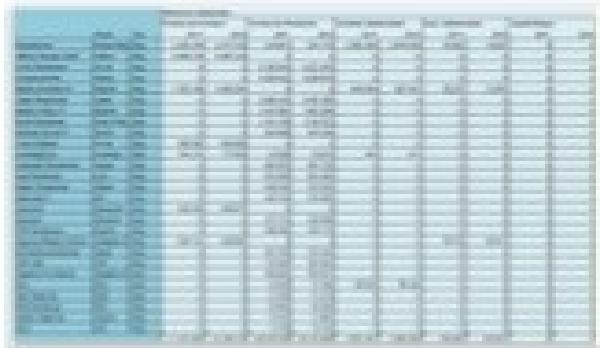
Training



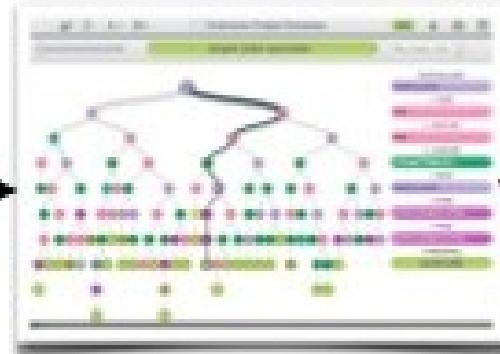
Prediction



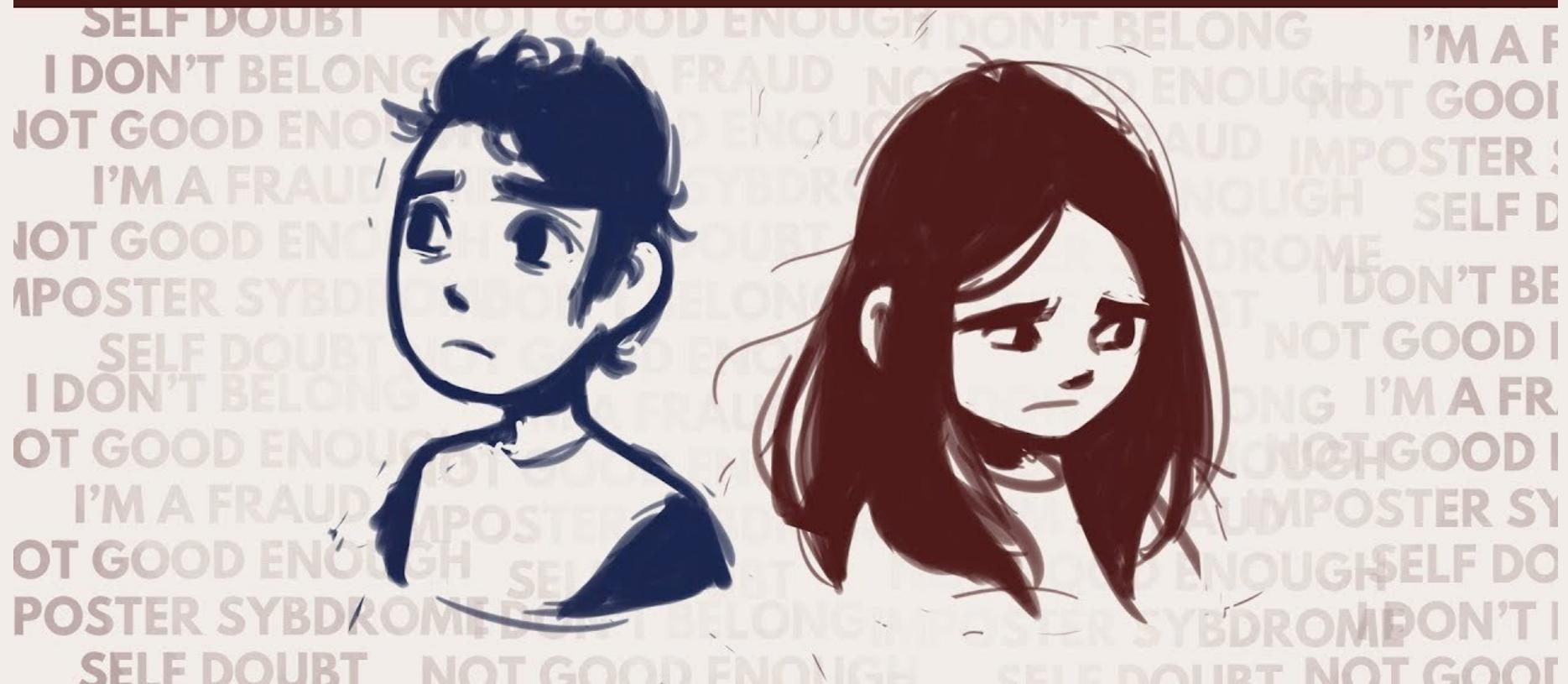
New Data



Re-Training



IMPOSTER SYNDROME



“Imposter syndrome is a psychological pattern in which an individual doubts their accomplishments and has a persistent internalized fear of being exposed as a “fraud”. ” – Wikipedia



Social medias can trigger imposter syndrome

Code of Conduct

- No Code of Conduct (CoC)
- CoC applied to mailing lists, bug tracker and python.org
- CoC applied to Pycon events
- May 2018: Pycon US used the service of a company to help to manage CoC incidents
- The PSF now requires a CoC on « Pycon » events
- Discussions on how to handle incidents and bans

Diversity of **points of view**: documentation, reference counting (C), compatibility, API, language consistency, simple solution, corner cases, performance, security, PyPy, etc.

Diversity



Diversity of **use cases**: CLI running less than one second (startup time), server running for multiple days, GUI, machine learning, REST server, games, etc.

Diversity



INADA Naoki (**Japan**) promoted as core dev
in 2016: BDFL-delegate of PEP 538 (C **locale**
coercion) and PEP 540 (**UTF-8** mode). English
speakers are satisfied with **ASCII**, Japanese
speakers care more about **Unicode**.

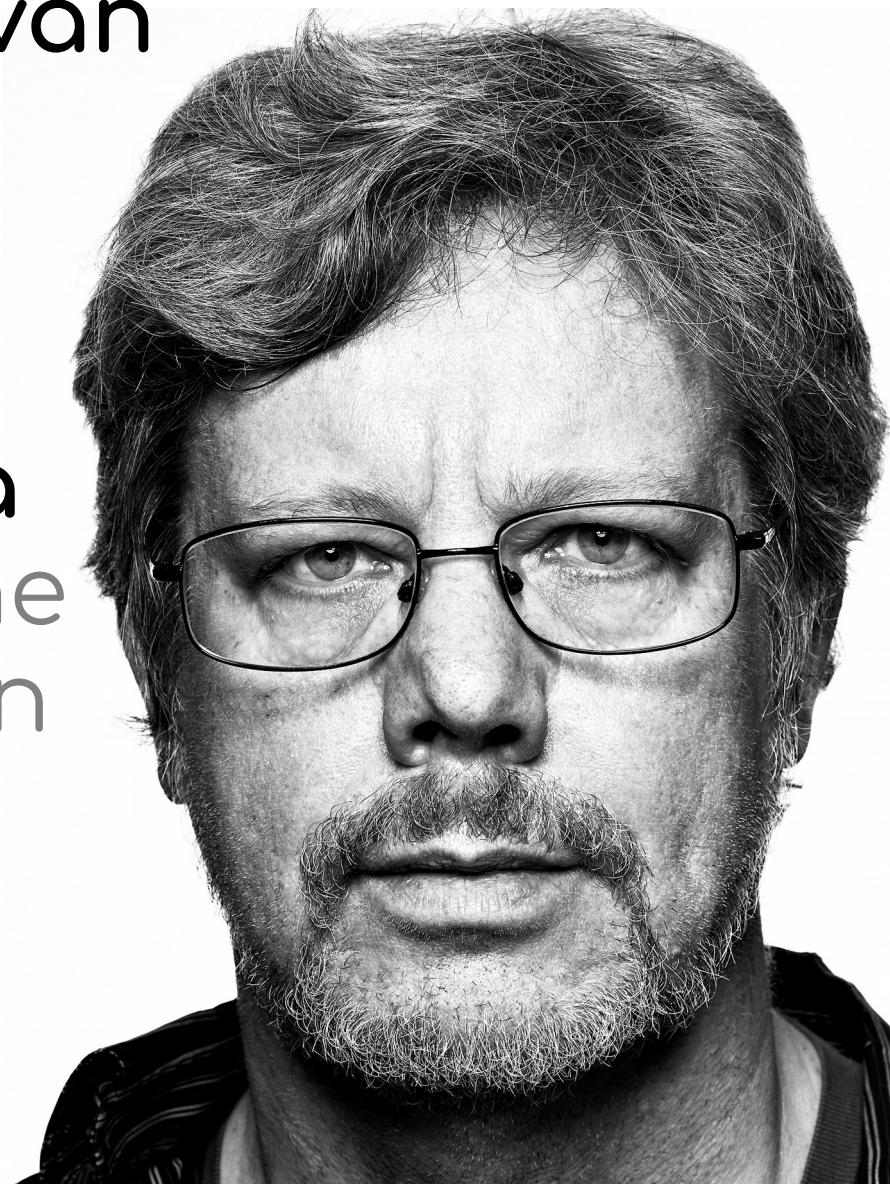
Diversity



Mentoring

Positive Action

- Pycon US 2016, **Guido van Rossum** encouraged women to contact him for mentoring
- He mentored **Mariatta Wijaya** who became the first woman core dev in January 2017



Positive Action

May 2017: Carol Willing

Sept 2018: Lisa Roach
and Emily Morehouse

Feb 2019: Cheryl Sabella

2016: 0 woman core devs

2017: 2 woman core devs

2018: 4 woman core devs

2019: 5 woman core devs



“Give a man a fish and
you feed him for a day.
Teach a man to fish and
you feed him for a lifetime.”



Mentoring

I mentored **Pablo Salgado**,
between January and
June 2018. He became
a core dev in June.



Mentoring

The development of
an Open Source project
is a matter of trust.



Mentoring

Communities



- “Women Who Love Coding in Python”
- Events in Australia, Brazil, France, India, Netherlands, Nigeria, Taiwan, ...
- pyladies.com

pyladies



<Trans○Code/>

- “The event that aims to help draw attention to transgender issues through a topic-focused hackday.”
- Latest event:
PyLondonium
(London, UK)
- trans-code.github.io





Creation of trans.tech (previous website)

django girls

- “We inspire women to fall in love with programming.”
- 733 events: Cameroon, Finland, France, Ghana, India, Japan, Spain, Switzerland,
- djangogirls.org

DIANGO

STRONG



Conclusion

Take Away

- Core devs are the bottleneck.
- We are aware that Python has “people issues”.
- Mentoring is efficient to train contributors as future core developers.
- The Code of Conduct reduces the toxicity.



“Increasing the core’s diversity is a very important goal to ensure the future health of Python.”

– Guido van Rossum





“Come for the Language,
Stay for the Community”
– Brett Cannon & Naomi Ceder

What's Next?

- Promotion Process
- Mentoring Guide
- Contributor Tutorial

cpython-core-tutorial.rtfd.io

