Hirsch index for OSS

Pavel Aitkulov

ajtkulov@gmail.com

May 13, 2025

Bigger

6 > 4



Better?

6 ? 4



3 / 22

Better?

6 ? 4 It depends

banana ? apple

banana ? apple 'banana' > 'apple'

banana ? apple 'banana' > 'apple' banana ? Sunday

banana? apple
'banana' > 'apple'
banana? Sunday
multidimensional, embeddings

We want to hire best engineers!

- Lines of code
- Commits
- PR
- Resolved issues
- Different projects

We want to hire best engineers!

- Lines of code
- Commits
- PR
- Resolved issues
- Different projects
- Not an asshole

We want to hire best engineers!

- Lines of code
- Commits
- PR
- Resolved issues
- Different projects
- Not an asshole
- For a little money, and fire them in one day

In sport



In math



In ...

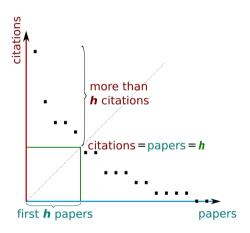


8 / 22

ln ...

Combination of Erdös + Bacon + ...

In science



Strong correlation between H-index and Nobel Prize winners.

OSS index, demo

```
https://stats.getprog.ai/git?profile=jdegoes
http://localhost:3000/jdegoes
https://hirsch-ui.vercel.app/github/torvalds
https://stats.getprog.ai/repo?repo=apache/spark
```

OSS index, demo

```
https://stats.getprog.ai/git?profile=jdegoes
http://localhost:3000/jdegoes
https://hirsch-ui.vercel.app/github/torvalds
https://stats.getprog.ai/repo?repo=apache/spark
```

Github stats: 7M non trivial H-index, 400M repos, 120M profiles

OSS index doesn't mean ...



OSS index, weird

https://www.npmjs.com/package/is-number 72M downloads weekly



Fake it till ...

https://arxiv.org/pdf/2412.13459 4.5 Million (Suspected) Fake Stars in GitHub: A Growing Spiral of Popularity Contests, Scams, and Malware

Fake it till ...

- Skripal poisoning case, March 2018
- ② Downloads, views, likes, stars (top instagram post)
- H-index
- Citations

Threat

- Fake libs in Maven Central https://mvnrepository.com/artifact/com.pvful/cats-effect_sjs1_3/5.1 and https://mvnrepository.com/artifact/com.typesafe.akka/shapeless 2.9.2/1.9 [404 both]
- 2 Fake accounts on Github, Linkedin, botnets
- What if I get access to https://www.npmjs.com/package/is-number [70M] and add malicious code?
- What if I bought a fake Github stars for competitors



Data

- Github
- Stackoverflow
- Linkedin
- Maggle
- Maven Central, Pypi, NPM
- DockerHub (I know the link)

About myself

- \bullet H-index = 1
- \bigcirc OSS H-index = 0
- Marathon PB = 3h22m
- Chess Elo (lichess.org, blitz, highest) = 2118

About myself

- \bullet H-index = 1
- \bigcirc OSS H-index = 0
- Marathon PB = 3h22m
- Chess Elo (lichess.org, blitz, highest) = 2118
- Bacon + Adult film = 0, in my hope

About others

- Demis Hassabis
- Martin Odersky
- John M. Jumper
- Matei Zaharia

Comparison of high-dimensional things is hard and wrong

- Comparison of high-dimensional things is hard and wrong
- Classes, be alike better

- Comparison of high-dimensional things is hard and wrong
- Classes, be alike better
- you can fake a lot
- faking everyting is expensive

- Comparison of high-dimensional things is hard and wrong
- Classes, be alike better
- you can fake a lot
- faking everyting is expensive
- some animals are more equal than others

- Comparison of high-dimensional things is hard and wrong
- Classes, be alike better
- you can fake a lot
- faking everyting is expensive
- some animals are more equal than others
- 🧿 some repos are more equal than others

- Comparison of high-dimensional things is hard and wrong
- Classes, be alike better
- you can fake a lot
- faking everyting is expensive
- some animals are more equal than others
- some repos are more equal than others
- o punish bad guys, appreciate good one

- Comparison of high-dimensional things is hard and wrong
- Classes, be alike better
- you can fake a lot
- faking everyting is expensive
- some animals are more equal than others
- some repos are more equal than others
- opunish bad guys, appreciate good one
- to filter out an asshole is hard problem

That's all



Actually not, Quiz





