

開源軟體介紹 - OSS Introduction

Hsin, founder & CEO @ 信誠金融科技
(Footprint AI)

2024/09



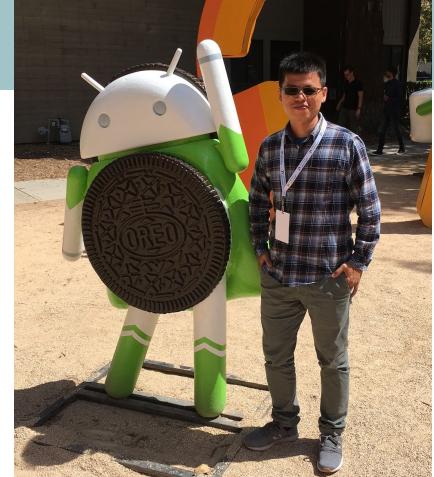
Download Slides

<https://github.com/FootprintAI/talks/tree/main/slides>



About Me

- 2020 - Founder& CEO, Present at 信誠金融科技 (Footprint AI)
- 2016 - 2020 at IglooInsure (16M+ in series A+ 2020)
 - Provide digital insurance for e-economic world
 - Funded in KUL, Headquartered in Singapore
 - First employee/ Engineering Lead / Regional Head/ Chief Engineer
- 2013 - 2016 at Studio Engineering @ hTC
 - Principal Engineer on Cloud Infrastructure Team
- 2009 - 2012 at IIS @ Academia Sinica
 - Computer vision, pattern recognition, and data mining
- CS@CCU, CS@NCKU alumni



NVIDIA and TEAM AI In Taiwan



2024 Recap



Build for the NEXT big thing

- We are hiring interns for developing AI system, building AI models to solving unknown tasks.
- Feel free to connect if you're eager to embrace the **fail fast** ethos.



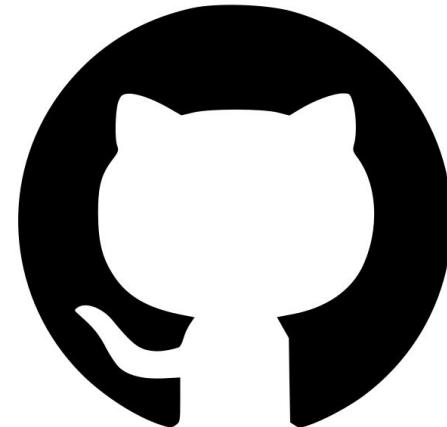
<https://www.bing.com/images/create/c...>

What is Open Source?



Github: Let's Build From Here

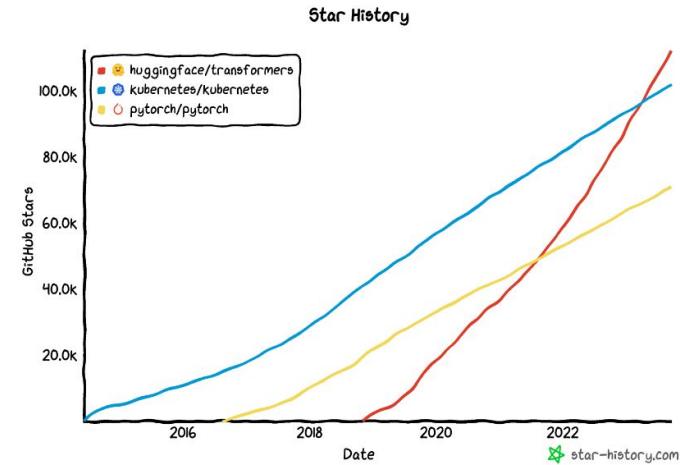
- In April 2005, Linus Torvalds began developing Git after the free license for BitKeeper, the proprietary SCM system used for Linux kernel development since 2002, was revoked.
- GitHub founded in 2007, its name was chosen as a compound of *Git* and *hub*.
- Microsoft buys Github for \$7.8B in 2018.



Huggingface: github for AI



- An open source data science and machine learning platform, aka **github for AI**.
- Notable with its **open source transformer library**, which simplifies the process of working with pre-trained models.
- Huggingface Hub [1]
 - A central hub for community to share and explore machine learning.



year	2021	2023
Fundraising status	40M (B)	235M(D)

https://en.wikipedia.org/wiki/Hugging_Face
<https://github.com/huggingface/transformers>
<https://collabnix.com/what-is-hugging-face-and-why-it-is-damn-popular-9>

Flower: A friendly federated learning framework

- Flower accelerates **the adoption of federated** and decentralized AI, providing a framework for training AI on distributed data, challenging traditional GPU-based methods, and enabling more secure, efficient, and **regulation-compliant AI** solutions, with notable backing from major investors and support from Fortune 500 companies and top universities.

year	2024
Fundraising status	20M (A)



<https://flower.ai/>

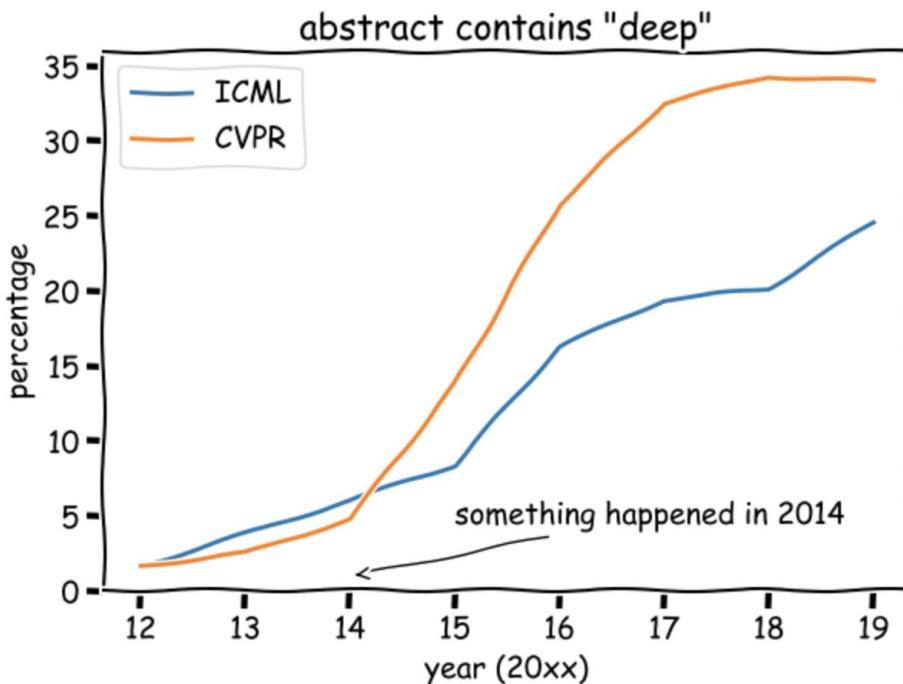
RedHat: an enterprise operating system

Red Hat is primarily known for its enterprise solutions based on open-source technologies. Its flagship product is Red Hat Enterprise Linux (RHEL), an **open-source operating system** designed for businesses to run critical applications. Red Hat plays a pivotal role in the open-source ecosystem by contributing to and building on numerous open-source projects. It follows a business model where it develops software from open-source communities (like the Linux kernel, Kubernetes, etc.), makes these solutions **stable** and enterprise-ready, and provides them to customers with **long-term support, security, and certifications**.

year	2019
Fundraising status	34B (Acquisition)



AlexNET: a first example of using GPU on deep learning



AlexNet Source Code

This package contains the original AlexNet source code as it was in 2012, when it won the ImageNet competition. Geoffrey Hinton, Ilya Sutskever, and Alex Krizhevsky formed DNNResearch soon afterwards and sold the company, and the AlexNet source code along with it, to Google, which would continue work on it. This package also includes the parameter files trained on the ImageNet dataset.

Previously available as open source was Krizhevsky's precursor to AlexNet, [cuda-convnet](#), which was trained on the smaller CIFAR-10 dataset. While there are other existing repositories of code named "AlexNet" on the web, they are not the original code, but rather reimplementations based on the paper Krizhevsky, Sutskever, and Hinton published:

Krizhevsky, A., Sutskever, I. & Hinton, G. E. (2012). [ImageNet Classification with Deep Convolutional Neural Networks](#). In F. Pereira, C. J. C. Burges, L. Bottou & K. Q. Weinberger (ed.), Advances in Neural Information Processing Systems 25 (pp. 1097--1105). Curran Associates, Inc.

<https://github.com/computerhistory/AlexNet-Source-Code>

What is Open Source Software? Definition

“Open-source software is a type of computer software ... the copyright holder grants users the rights to **use, study, change, and distribute** the software to anyone and for any purpose.” [1]

[1] https://en.wikipedia.org/wiki/Open-source_software

What is Open Source Software? In Plain Text

Source Code is **publicly** available.

Open to contribution.

Source code available with a **license** that permits users to freely run, study, modify and redistribute.

XZ-backDoor - Background

Screenshot of a GitHub profile page for user JiaT75.

Pinned:

- STest** (Public) - Multi-testing framework for C/C++. Easy to use by simply dropping stest.c and stest.h into your project!
C 13 ⚡ 8
- libarchive/libarchive** (Public) - Multi-format archive and compression library
C 3k ⚡ 762
- keithn/seatest** (Public) - Seatest - Simple C based Unit Testing
Shell 70 ⚡ 19

Jia Tan
JiaT75

Follow

589 followers · 1 following

jiat0218@gmail.com

Achievements:

- x3
- x2

Block or Report

Contribution activity:

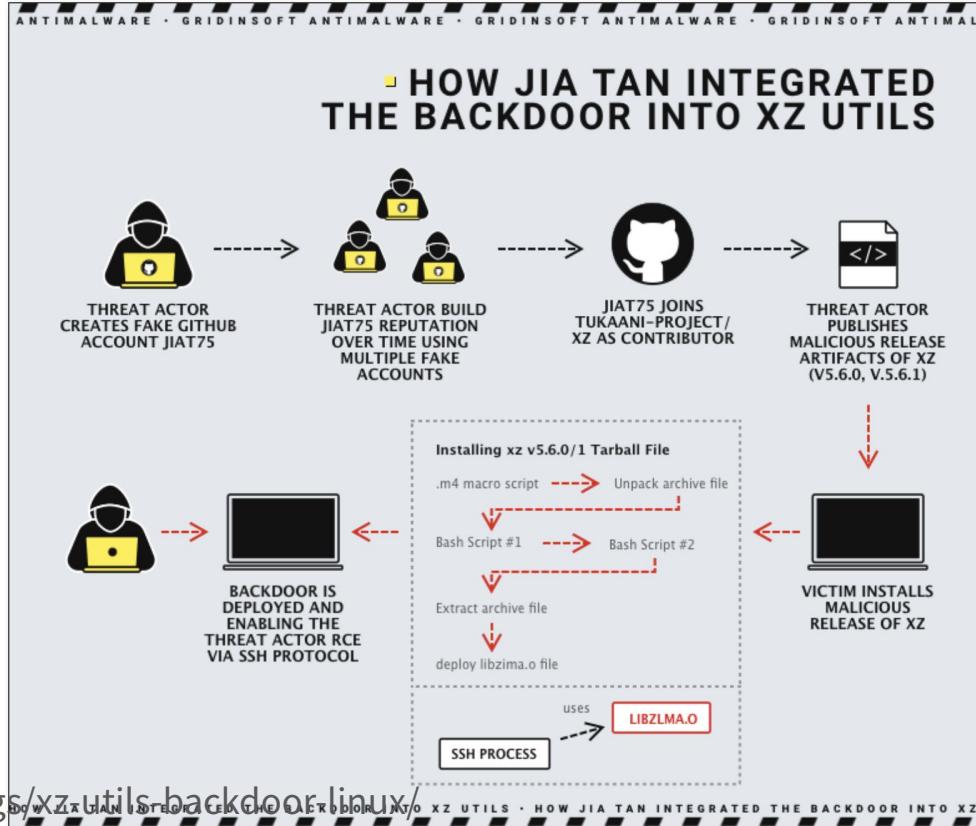
September 2024

JiaT75 has no activity yet for this period.

Timeline:

- 2024
- 2023
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017

XZ-backDoor - Trajectory



XZ-backDoor - Discovered

Message-ID: <20240329155126.kjjfduxw2yrlxgzm@awork3.anarazel.de>
Date: Fri, 29 Mar 2024 08:51:26 -0700
From: Andres Freund <andres@...razel.de>
To: oss-security@...ts.openwall.com
Subject: backdoor in upstream xz/liblzma leading to ssh server compromise

Hi,

After observing a few odd symptoms around liblzma (part of the xz package) on Debian sid installations over the last weeks (logins with ssh taking a lot of CPU, valgrind errors) I figured out the answer:

The upstream xz repository and the xz tarballs have been backdoored.

At first I thought this was a compromise of debian's package, but it turns out to be upstream.

== Compromised Release Tarball ==

One portion of the backdoor is *solely in the distributed tarballs*. For easier reference, here's a link to debian's import of the tarball, but it is also present in the tarballs for 5.6.0 and 5.6.1:

https://salsa.debian.org/debian/xz-utils/-/blob/debian/unstable/m4/build-to-host.m4?ref_type=heads#L63

That line is *not* in the upstream source of build-to-host, nor is build-to-host used by xz in git. However, it is present in the tarballs released upstream, except for the "source code" links, which I think github generates directly from the repository contents:

<https://github.com/tukaani-project/xz/releases/tag/v5.6.0>
<https://github.com/tukaani-project/xz/releases/tag/v5.6.1>

Ref: <https://www.openwall.com/lists/oss-security/2024/03/29/4>

License

The misunderstanding on open source software

- Open source software is **Free** in terms of Freedom, not Monetary.
- Open source developer is **NOT** a free labor [1]
 - Sponsorship by companies
 - Add values(a.k.a layers) on the existing project
 - Professional consult
- Open source means **Pool** quality
 - Good quality when the project gained enough eyeballs
 - On average the density of code defect is smaller than proprietary software [2]



[1] <https://softwareengineering.stackexchange.com/questions/100685/making-money-with-open-source-as-a-developer>

[2] <https://blogs.worldbank.org/opendata/quality-open-source-software-how-many-eyes-are-enough>

Why Use OSS?

2024/09/24



Why use OSS?

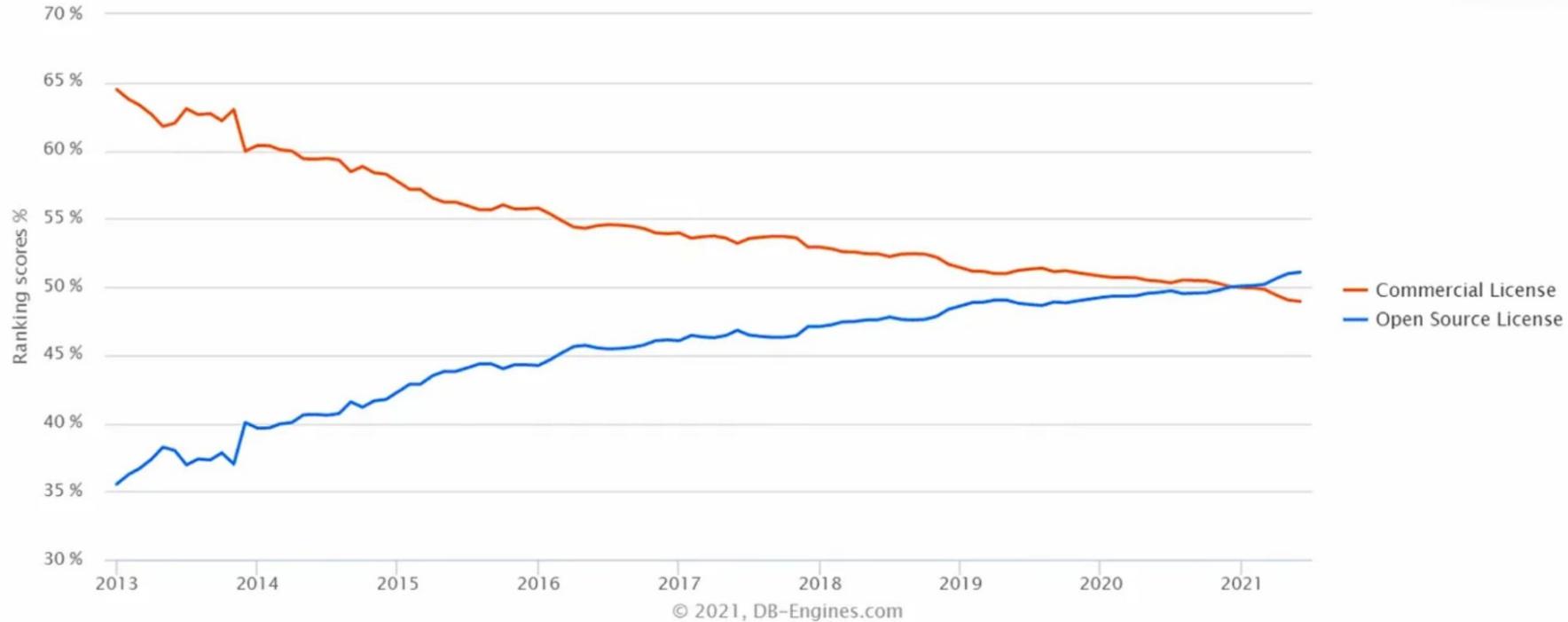
…, “The reason OSS is preferred is that most developers feel that it is a **better quality** software, **without vendor lockin** and also available at a **lower cost.**” ...[1]

[1] <https://medium.com/scale-together/the-rise-of-open-source-5958421d02b9>

OSS Business Model - Redhat case study

…, “Red Hat maintained a vibrant open-source community around Fedora, updating it with new features and releases every six months, the company marketed enterprise-grade security and optimization on standard Intel hardware to people using the paid enterprise product. This allowed Red Hat to build a recurring revenue stream of more than \$1 billion from enterprise customers” ...[1]

[1] <https://techcrunch.com/2016/02/09/the-money-in-open-source-software/>



The growth has been consistent and there are over 41Mn public repositories on github today!

ref: <https://medium.com/scale-together/the-rise-of-open-source-5958421d02b9>

Solution

Examples Only (includes previously acquired businesses)

DevOps

 TREASURE DATA	 puppet	 HashiCorp	 docker	 CloudBees	 GitHub	 Rackspace	 fastly	 Pivotal	 nicira
Est. \$100M	Est. \$250M	Est. \$150M	Est. \$100M	Est. \$100M	Est. \$400M	Est. \$4B	Est. \$200M	Est. \$3.5B	Est. \$2B

Data Platforms

 redislabs HOME OF REDIS	 neo4j	 MySQL	 mongoDB	 DataStax	 Couchbase	 MuleSoft	 talend	 elastic	 CONFLUENT
Est. \$100M	Est. \$100M	Est. \$1B	Est. \$400M	Est. \$150M	Est. \$100M	Est. \$700M	Est. \$200M	Est. \$400M	Est. \$300M

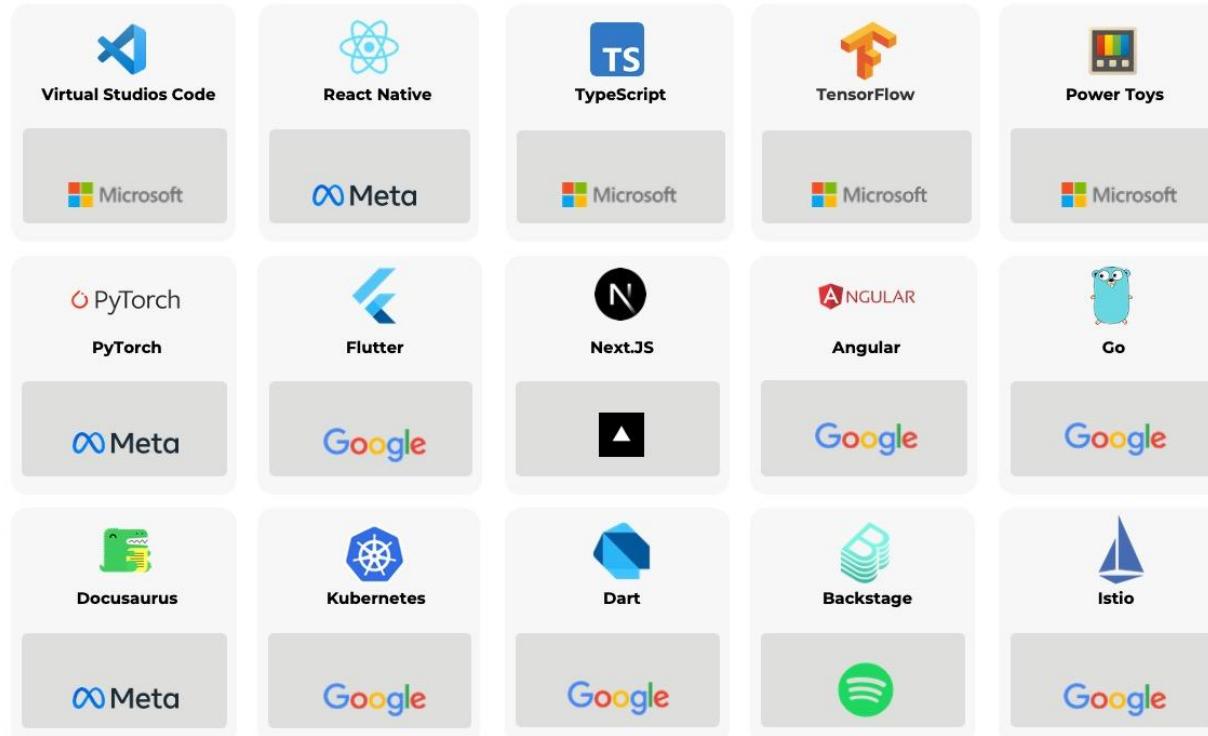
Analytics

 segment	 CLOUDERA	 databricks	 pentaho
Est. \$150M	Est. \$850M	Est. \$500M	Est. \$100M

Security

 SOURCEfire	 RAPID7	 ForgeRock
Est. \$500M	Est. \$3.7B	Est. \$200M

OSS projects & frameworks by BigTech companies



Sample Open-Source Software for IBM Z and LinuxONE

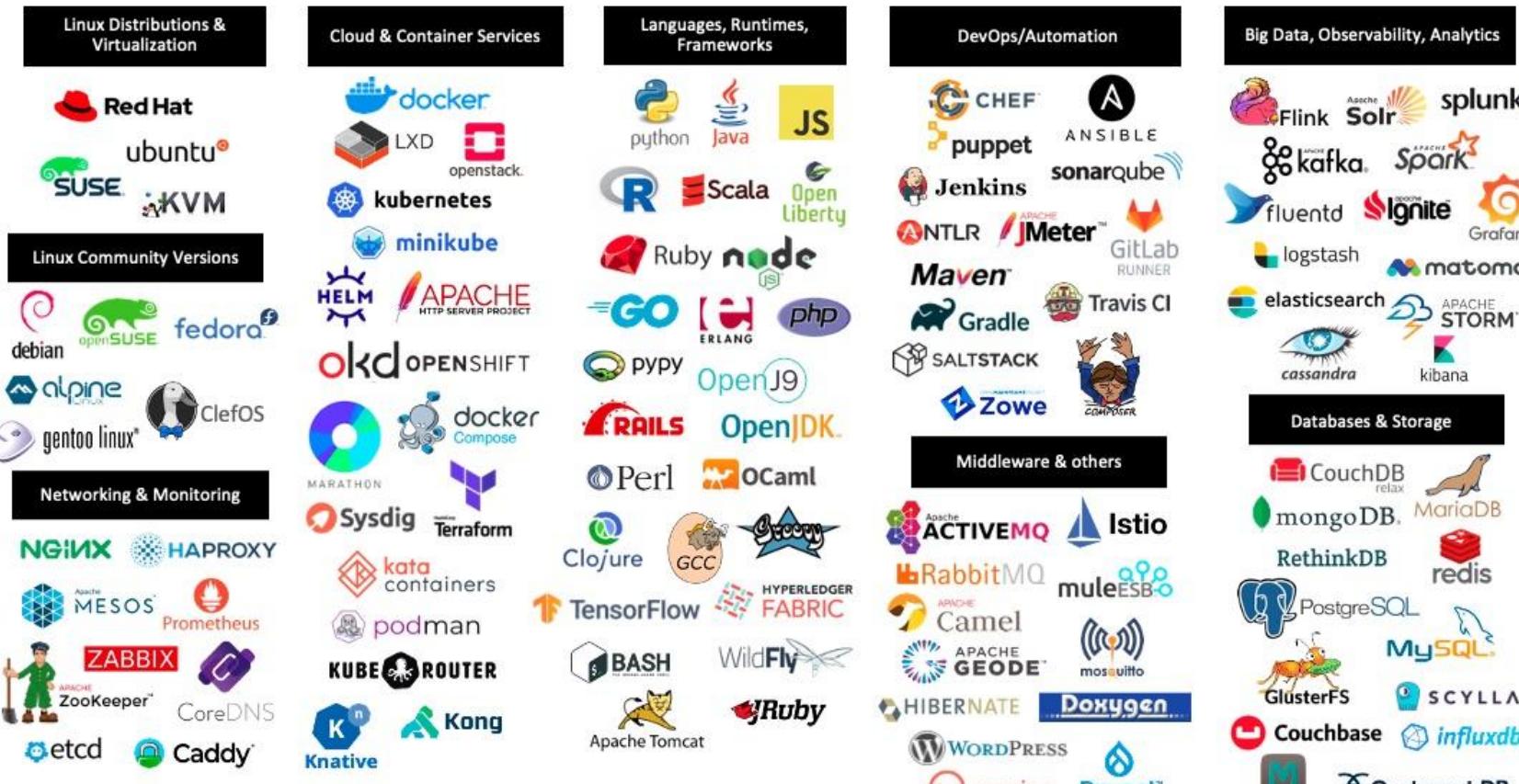


Photo ref:

More: www.ibm.com/community/z/open-source-software/
https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/javier-perez1/2021/03/30/the-growing-ecosystem-of-open-source-software-for?c
ommunityKey=64d1d1bd-66bc-4ecb-b9e8-0372b18c5bcb

What is Business behind OSS for a Community?

- Branding via x foundation incubator
 - Apache foundation, CNCF foundation, Green Software Foundation
- Sponsors
 - Get funding from organizations and private company.
- High gravity community is EVERYTHING
 - Attract talents and diversify the contributors.
 - Attract capital and attentions from public
 - Strong community -> loyer user -> paid customer

What is Business behind OSS for a Company?

- Attract Talent:
 - Best place to find talents is from the community of the project.
- Lower Maintenance Fee
 - The cost of a Forked project (elasticsearch -> opensearch)
 - Contributing your changes to the upstream project.
- Lead the direction
 - Through the contributions, you can actually inference the direction of the project (roadmap / milestones)

What is Business behind OSS for a Dev?

- Improve Skills
 - Get hands-on experiences on designing, organizing, and writing contributions with zero cost.
- Make Friends
 - Collaborative projects offer a chance to seek advice from skilled peers.
 - You can pass on your knowledge to others as you gain experience later on.
- Reputation
 - Link your resume with all the work you have done as a solid proof.

The conflict between OSS and internet companies

An elasticsearch case study



- A distributed document storage solution, powered by Apache lucene, a full-text search engine.
 - With Apache 2.0, a permissive software license.
 - Amazon Web Service (AWS) launches its management service called Amazon Elasticsearch Search[1] since 2015.
 - Elasticsearch changed its license to SSPL (2018-2021)
 - AWS FORKED elasticsearch project, called it OpenSearch in 2021.
 - Elasticsearch changed its license to AGPL in 2024[2]

SSPL requires cloud providers to open-source all components related to offering the software as a managed service (e.g., UIs, APIs, hosting).

It's effectively a "no to Amazon" license.

[1] <https://www.elastic.co/blog/why-license-change-aws>

[2] <https://www.elastic.co/blog/elasticsearch-is-open-source-again>



Image Source

Graph illustrating the number of new commits to the OpenSearch code base over the past 12 months.

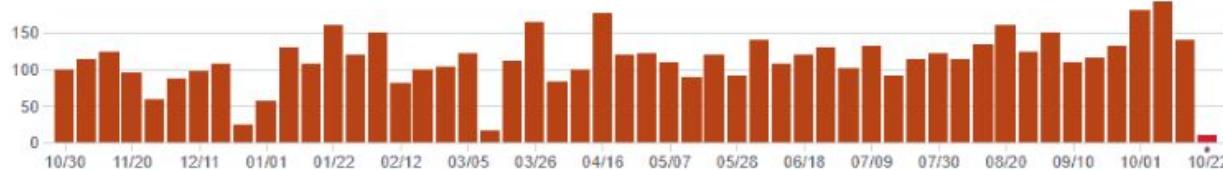


Image Source

Graph illustrating the number of new commits to the Elasticsearch codebase over the past 12 months.

Redis: another dual-licensed movement (1/2)

- ``` Starting with Redis 7.4, **Redis** will be dual-licensed under the Redis Source Available License (RSALv2) and Server Side Public License (SSPLv1). Consequently, Redis will no longer be distributed under the three-clause Berkeley Software Distribution (BSD).``` [1]

Investigate Offering OSS alternatives to Redis in Argo CD installations #17970 New issue

Open todaywasawesome opened this issue on Apr 26 · 6 comments

 todaywasawesome commented on Apr 26 · edited · Contributor · ...

Summary

The Redis License is changing from BSD-3-Clause to RSALv2 and SSPLv1 which are not open source under the OSI definition. We should consider open-source alternatives as a default replacement for Redis.

Motivation

First off, let's recognize @hairmare for bringing the suggestion to switch to ValKey in #17892. There are several reasons we should consider a replacement:

- Deploying Argo CD should only require OSS software.
- There are potential performance improvements to be made with an alternative.
- Some ambiguity about CNCF license compatibility.

Proposal

There are at least two potential drop-in replacements for Redis that would still maintain compatibility with the Redis API.

- [Valkey](#)
- [KeyDB](#)

Valkey is a CNCF fork of existing Redis BSD-3-Clause meant to be a drop in replacement that will maintain compatibility. KeyDB is a performance-focused fork with several years of commits. It's primarily based on Redis 6 and does anticipate some impact from the [Redis License change](#).

We should evaluate all potential options, including changing the way we leverage Redis today. We need a spike to review the implications of using these alternatives and measure performance impacts. In the meantime, we should keep in mind:

Assignees
No one assigned

Labels
[component:redis](#) [enhancement](#)

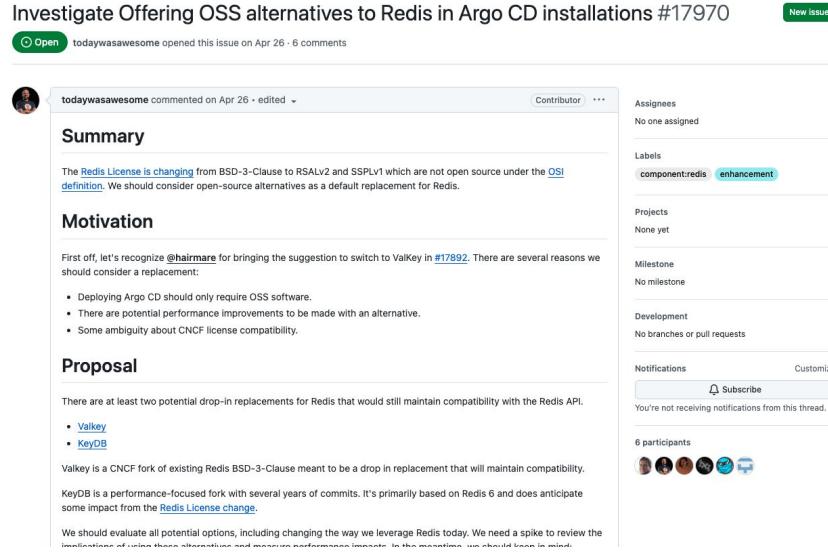
Projects
None yet

Milestone
No milestone

Development
No branches or pull requests

Notifications
Customize Subscribe
You're not receiving notifications from this thread.

6 participants 



[1]<https://redis.io/blog/redis-adopts-dual-source-available-licensing/>

[2]<https://github.com/argoproj/argo-cd/issues/17970>

Redis: another dual-licensed movement (1/2)

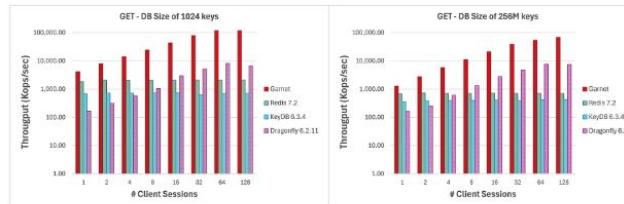
Microsoft Research has recently [announced Garnet](#), an open-source cache-store designed to accelerate applications and services. Using the RESP wire protocol, Garnet is a faster alternative to cache-stores and is compatible with existing Redis clients.

Among the benefits of the new remote cache-store, [the team behind Garnet](#) highlights the RESP wire protocol, better scalability and throughput, and lower client latency at the 99th and 99.9th percentiles. [Badrish Chandramouli](#), partner research manager at Microsoft, explains the main limitations of modern caches such as Redis, Memcached, KeyDB, and Dragonfly that offer rich APIs and feature sets:

“

Existing systems achieve this feature richness at a cost, by keeping the system design simple, which limits the ability to fully exploit the latest hardware capabilities (e.g., multiple cores, tiered storage, fast networks). Further, many of these systems are not explicitly designed to be easily extensible by app developers or to work well on diverse platforms and operating systems.

To showcase its [performance advantages](#), Microsoft Research compared Garnet, Redis, KeyDB, and Dragonfly using their proprietary benchmarking tool, [Resp.benchmark](#). The comparison covers four distinct scenarios: throughput with a varying number of client sessions, throughput with varying batch sizes, latency with a varying number of client sessions, and latency with varying batch sizes.



[1]<https://www.infoq.com/news/2024/04/microsoft-garnet-cache-store/>

[2]<https://github.com/microsoft/garnet>

Developing an OSS Strategy

2024/10/01



How to develop a good OSS Project?

A Real problem, and there are solutions but ...

You can work on it patiently until the community grows...

Linux project is started in 1991[1]

- Proprietary OS is very expensive, so Linus Torvalds decided to create one for free & fun.

- Lease first version (v0.0.1) at Sep 1991.
- Join GPL license which made Linux free and open for everyone to use, modify, and distribute.
- This decision attracted more developers to the project.

Github was founded in 2007 [2]

- VCS(e.g. RCS, CVS, Subversion and Perforce) are all similar solutions but hard to use at large scale codebase.
- BitKeeper, a commercial version control system, once dominated the market, but its free license was restricted to those **not working on competing open-source tools.**[3].
- Git was borned in April 2005.

- Linux is promoting Git, a distributed version control system.
- Google/Android moved to Github after v1.0 was released.
- Big support by Ruby community. (Free advertising)
- Google Code moved to github in 2015.

[1] https://en.wikipedia.org/wiki/History_of_Linux

[2] <https://en.wikipedia.org/wiki/GitHub>

[3] <https://graphite.dev/blog/bitkeeper-linux-story-of-git-creation>

Changelog media: a podcast for developer

The Changelog podcast is software's best weekly news brief (Mondays), deep technical interviews (Wednesdays) & talk show (Fridays).
Get the Changelog News[letter]! "So good I consider it a competitive advantage".

But that's not all! We produce other great shows about AI, web development, open source, software engineering & running it in production.

The Changelog
Software's best weekly news brief, deep technical interviews & talk show.
Hosted by:
Adam Stacoviak
Jerod Santo

Practical AI
Making artificial intelligence practical, productive & accessible to everyone.
Hosted by:
Chris Benson
Daniel Whitenack

JS Party
Your weekly celebration of JavaScript and the web.
Hosted by:
Kevin Ball
Anal Hussain
Christopher Hiller
and more...

Ship It!
A podcast about everything that happens after "git push"
Hosted by:
Justin Garrison
Autumn Nash

FOUNDERS TALK
Go Time
MASTER
CHangelog++

Submit News Search Changelog

Changelog media: a podcast for developer

Featuring

- Dinis Cruz – Twitter, GitHub, LinkedIn, Website
- Chris Benson – Twitter, GitHub, LinkedIn, Website
- Daniel Whitenack – Twitter, GitHub, Website

Sponsors

Speakeasy – Production-ready, enterprise-resilient, best-in-class SDKs crafted in minutes. Speakeasy takes care of the entire SDK workflow to save you significant time, delivering SDKs to your customers in minutes with just a few clicks! [Create your first SDK for free!](#)

Fly.io – The home of Changelog.com — Deploy your apps close to your users — global Anycast load-balancing, zero-configuration private networking, hardware isolation, and instant WireGuard VPN connections. Push-button deployments that scale to thousands of instances. [Check out the speedrun](#) to get started in minutes.

Shopify – Sign up for a \$1/month trial period at shopify.com/practicalai

Notes & Links

- The Cyber Boardroom
- OWASP - Top 10 for LLMs and Generative AI Apps
- OWASP - Generative AI

Chapters

1	00:00	Intro	00:34
2	00:35	Sponsor: Speakeasy	00:53
3	01:36	Future AI in medical uses	01:51

Transcript

 Edit Transcript

CHANGELOG
Play the audio to listen along while you enjoy the transcript. 🎧

 DANIEL WHITENACK
Welcome to another episode of Practical AI. This is Daniel Whitenack. I am the founder and CEO at Prediction Guard, and I am joined, as always, by my co-host, Chris Benson, who is a principal AI research engineer at Lockheed Martin. It's good to record one together, Chris. There've been a couple where we've been apart...

 CHRIS BENSON
That's right.

 DANIEL WHITENACK
Yeah, it's good to have the band back together, I guess.

 CHRIS BENSON
Absolutely. I took a brief respite. I had some lower back surgery, and since I'm always thinking about technology and AI, I was trying to imagine what the surgery might be like today versus if I had done this – if we were in a slight time warp and gone to the future.

 DANIEL WHITENACK
Did they have a robot arm?

 CHRIS BENSON
Exactly. If they did... Reinforcement learning, combined with kind of a chat interface, and the whole thing. So it was kind of a novel mind experiment there that I had, about what would it be if I was – you know, this was a little bit different time. But yup, all good for here.

Changelog media: a podcast for developer

[transcripts / practicalai / practical-ai-286.md](#)

changelogbot Apply standardised formatter to practical-ai-286.md

84de82d · 2 weeks ago

Preview Code Blame 175 lines (88 loc) · 43.8 KB Raw

Older Newer

2 weeks ago Create practical-ai-286.md

```
1  **Daniel Whitenack:** Welcome to another episode of Practical AI. This is Daniel Whitenack. I am the founder and CEO at Prediction
2
3  **Chris Benson:** That's right.
4
5  **Daniel Whitenack:** Yeah, it's good to have the band back together, I guess.
6
7  **Chris Benson:** Absolutely. I took a brief respite. I had some lower back surgery, and since I'm always thinking about technology
8
9  **Daniel Whitenack:** Did they have a robot arm?
10
11 **Chris Benson:** Exactly. If they did... Reinforcement learning, combined with kind of a chat interface, and the whole thing. So i
12
13 **Daniel Whitenack:** Yeah, well, I would hope that in all of our futures, as we have medical procedures done increasingly by AI or
14
15 **Chris Benson:** Yes, absolutely.
16
17 **Daniel Whitenack:** And on that front, I'm really excited, because Chris, on this show actually a couple of times I referenced th
18
19 **Dinis Cruz:** Thanks for inviting me. This is a topic that I'm very interested in at the moment, because I think there's a lot of
20
21 **Daniel Whitenack:** Yeah. Well, like I mentioned, you've been involved in OWASP in different capacities... Give us a little bit o
22
23 **Dinis Cruz:** Okay, so OWASP is the Open Web Application Security Project. And you kind of can say that OWASP is the people aroun
24
25 And I think Gen AI - it's an interesting evolution on our technology, even from a security point of view, because I think for the f
26
27 \[06:05\] I would say that the thing that is quite unique with Gen AI is the fact that you're now sending English, or Portuguese, o
28
29 For the ones that have been doing security for a while, we always talked about securing code and data. If you can separate code and
```

2 weeks ago Apply standardised formatter ...

2 weeks ago Create practical-ai-286.md

<https://changelog.com/posts/changelog-is-open-source>

changelog.com/posts

Changelog.com is open source

logged by **logbot** • 2016-10-25 • #updates

As we promised in [our relaunch announcement](#), this morning we open sourced the code that powers the new Changelog.com!

25 seconds ago
thechangelog made [thechangelog/changelog.com](#) public
C Hacker to the ❤️

Don't want the full rundown? Go star [the source code on GitHub](#).

What it is

 elixir

Changelog.com is an Elixir application built on the [Phoenix](#) web framework, [PostgreSQL](#), and a host of great open source efforts.

We built it to deliver good old-fashioned server-rendered HTML with "JavaScript sprinkles". Expect future posts from me about that decision and others we made along the way.

Why open source our website

Changelog.com isn't a platform to build on, or a library — so why did we open source it? A few reasons:

1. We love open source. Our careers (and livelihoods) wouldn't be possible without open source. Keeping it closed just felt *wrong*.
2. Phoenix is really great, but it's still young. There aren't *very many* in-production open source sites for people to reference as an example or inspiration. We want to throw our hat in the ring and hopefully others will follow.
3. Changelog is a community of hackers. Open sourcing the website will lead to bug reports, feature requests, and pull requests. This means a better overall product for all to enjoy.

How to work in OSS Projects

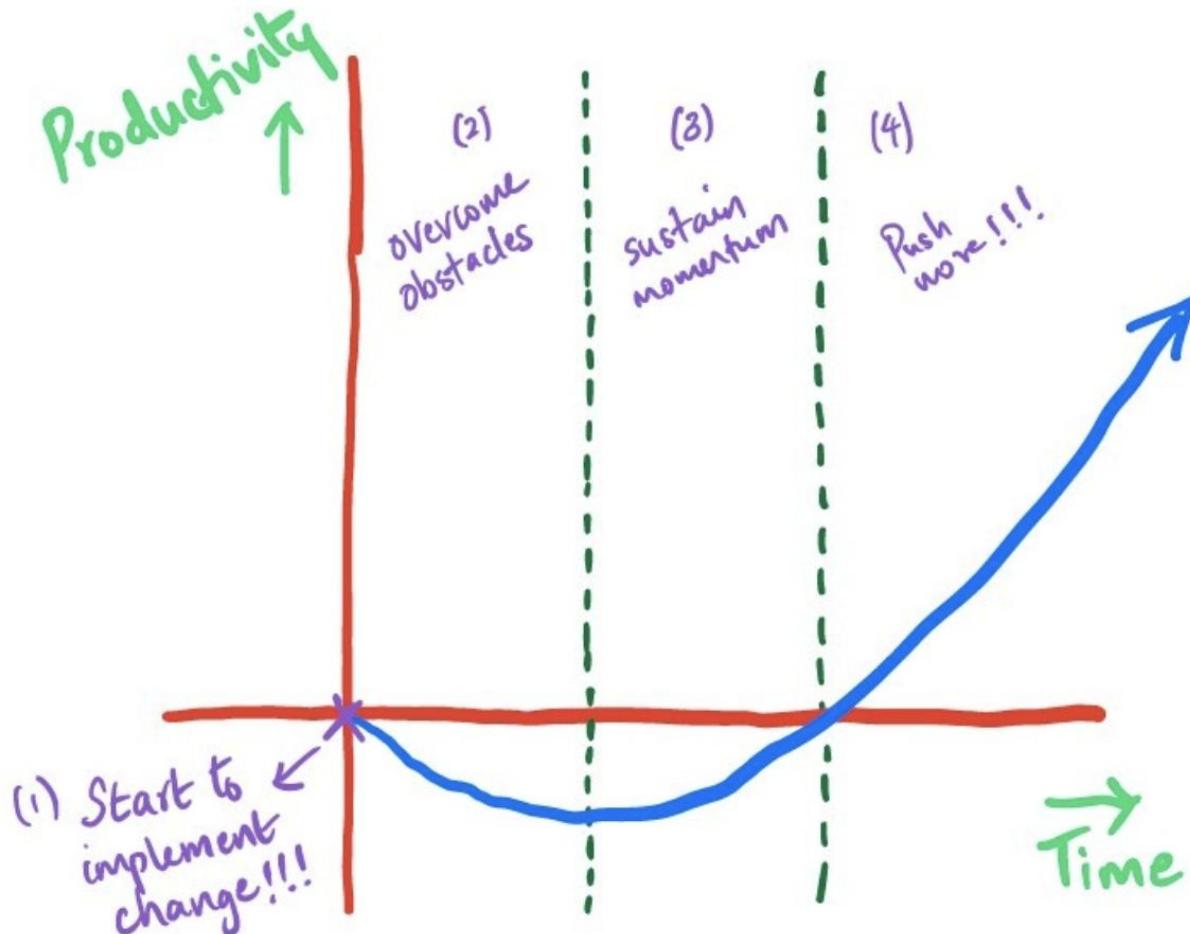
2024/10/08



三境界

古之成大事業大
學問者必經過三
種之境界昨夜西
風凋碧樹獨上高
樓望盡天涯路此
第一境也衣帶漸
寬終不悔爲伊消
得人憔悴此第二
境也眾裡尋他千
百度驀然回首那
人却在燈火闌珊
處此第三境也

錄王觀堂人間詞話人生古業求學三境
李叔同書於十鶴齋

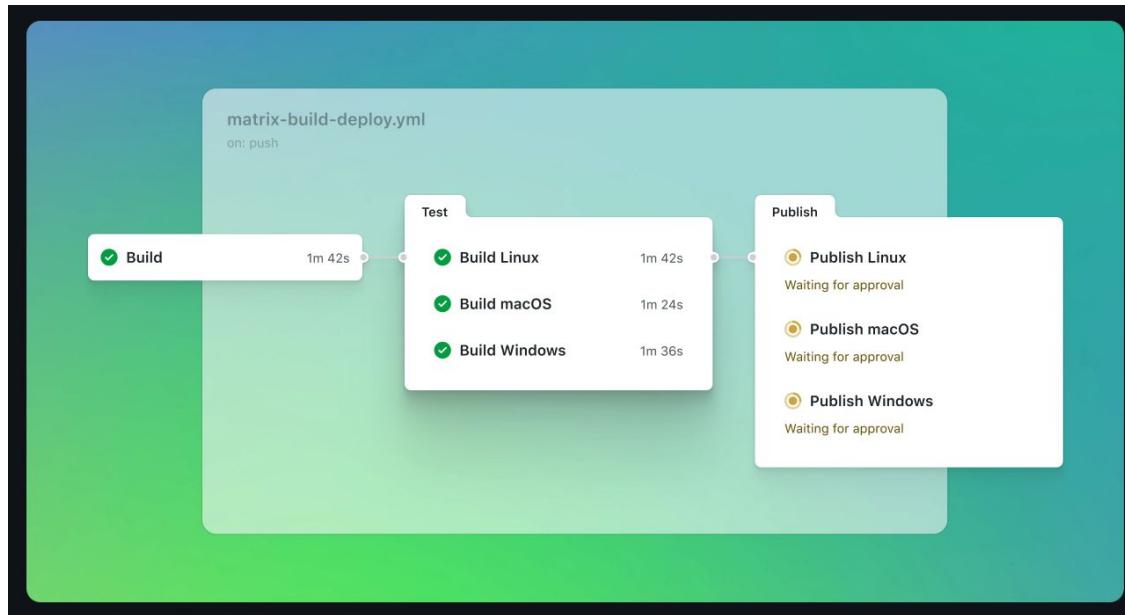


Crawl, Walk, Run

- Pick up issues that are EASY and INTERESTING
 - EASY to build up your confidence
 - INTERESTING to help you overcome challenges
 - <https://goodfirstissue.dev/>
- Draft a feature proposal for a concept you BELIEVE could be useful.
 - Even if you think it may not work, outline your thoughts clearly in the proposal.
- Explore unknown with OSS friends and community.
 - <https://www.linuxfoundation.org/projects>

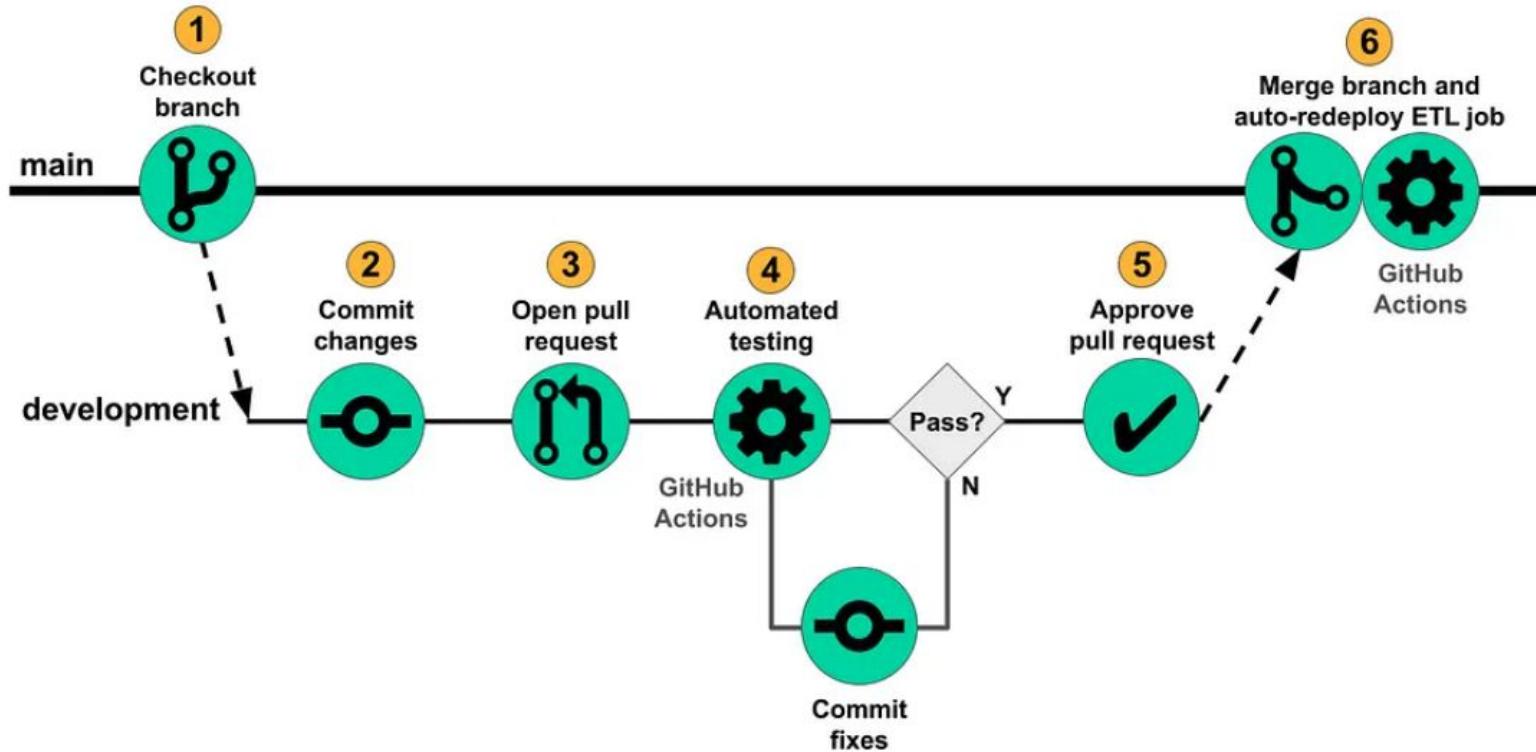
Github Actions

- Automation on your workflow (CICD) on github



Ref: <https://github.com/features/actions>

What is CICD



Github Actions

The screenshot shows the GitHub repository page for 'git-tutorials'. The repository has 11 pull requests, 3 branches, and 0 stars. The main branch is 'main' and the current commit is '42f74fd · now'. A GitHub Actions workflow named 'feat: add demo github action' has been triggered. The workflow includes steps for '.github/workflows', 'LICENSE', and 'README.md'. A tooltip indicates that some checks haven't completed yet, with one queued check. The workflow status is 'Queued - Waiting to run this check...'. The repository description is 'a tutorial for demonstrating git usage and lecturing.' and the audience is listed as university students and fresh graduates.

Pull requests 11 Actions Projects Wiki Security Insights Settings

git-tutorials Public

This branch is 2 commits ahead of main .

feat: add demo github action 42f74fd · now 4 Commits

.github/workflows feat: add demo github action now

LICENSE

README.md

Some checks haven't completed yet
1 queued check

GitHub Actions Demo / Explore-GitHub-Actions (push) Queued - Waiting to run this check... Details

git-tutorials

a tutorial for demonstrating git usage and lecturing.

audience

- university students
- fresh graduated

About

a tutorial for git

Readme

Apache-2.0 license

Activity

Custom properties

0 stars

1 watching

17 forks

Report repository

releases

No releases published Create a new release

Packages

No packages published Publish your first package

Contributors 2

hsinoyeh

hsinatfootprintai

Ref: <https://github.com/FootprintAI/git-tutorials/tree/feat---add-github-action>

Github Actions (.github/workflows)

.github/workflows defines steps to setup your environment from scratch, steps are including

1. Setup an OS environment and architecture
2. Setup dependencies
3. Run test or build codes with predefined scripts
4. Upload the artifacts.



```
whisper.cpp/.github/workflows/build.yml □

ggerganov ci : disable failing CUDA and Java builds ✓

Code Blame 670 lines (558 loc) · 18.5 KB Code 55% faster with GitHub Copilot

1 name: CI
2 on: [push, pull_request]
3
4 env:
5   ubuntu_image: "ubuntu:22.04"
6
7 jobs:
8   ubuntu-latest:
9     runs-on: ubuntu-latest
10
11   strategy:
12     fail-fast: false
13     matrix:
14       arch: [linux/amd64, linux/arm64, linux/arm/v7, linux/ppc64le]
15
16   steps:
17     - name: Clone
18       uses: actions/checkout@v4
19
20     - name: Set up QEMU
21       uses: docker/setup-qemu-action@v3
22
23     - name: Build ${{ matrix.arch }}
24       run: |
25         docker run --platform ${{ matrix.arch }} --rm \
26           -v ${{ github.workspace }}:/workspace \
27           -w /workspace ${{ env.ubuntu_image }} /bin/sh -c '
28             set -e
29             apt update
30             apt install -y build-essential libsdl2-dev
31             make
32             make stream'
33
34 macos-latest:
```

Github Actions Quick Start - Setup action for you

<https://docs.github.com/en/actions/writing-workflows/quickstart>

NOTE:

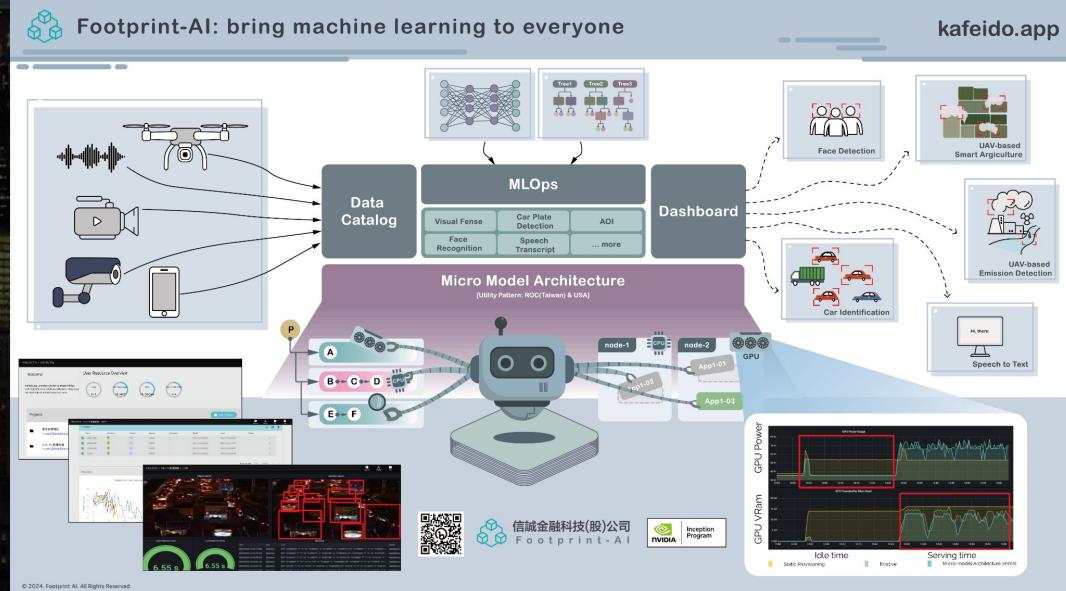
- Public repository are free to use github actions
- Private repository has a limited quota to use, otherwise pay more or [host your private node.](#)

Take away

- Open source is a public artifacts that help you grow a reputation and a career.
- The work to contribute to Open Source could take days or weeks, but the rewards could keep years.

Thank You

and follow us on Facebook / LinkedIn



Contact Us: partnership@footprint-ai.com