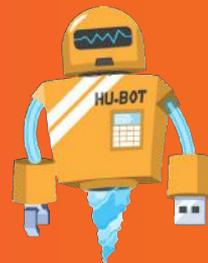
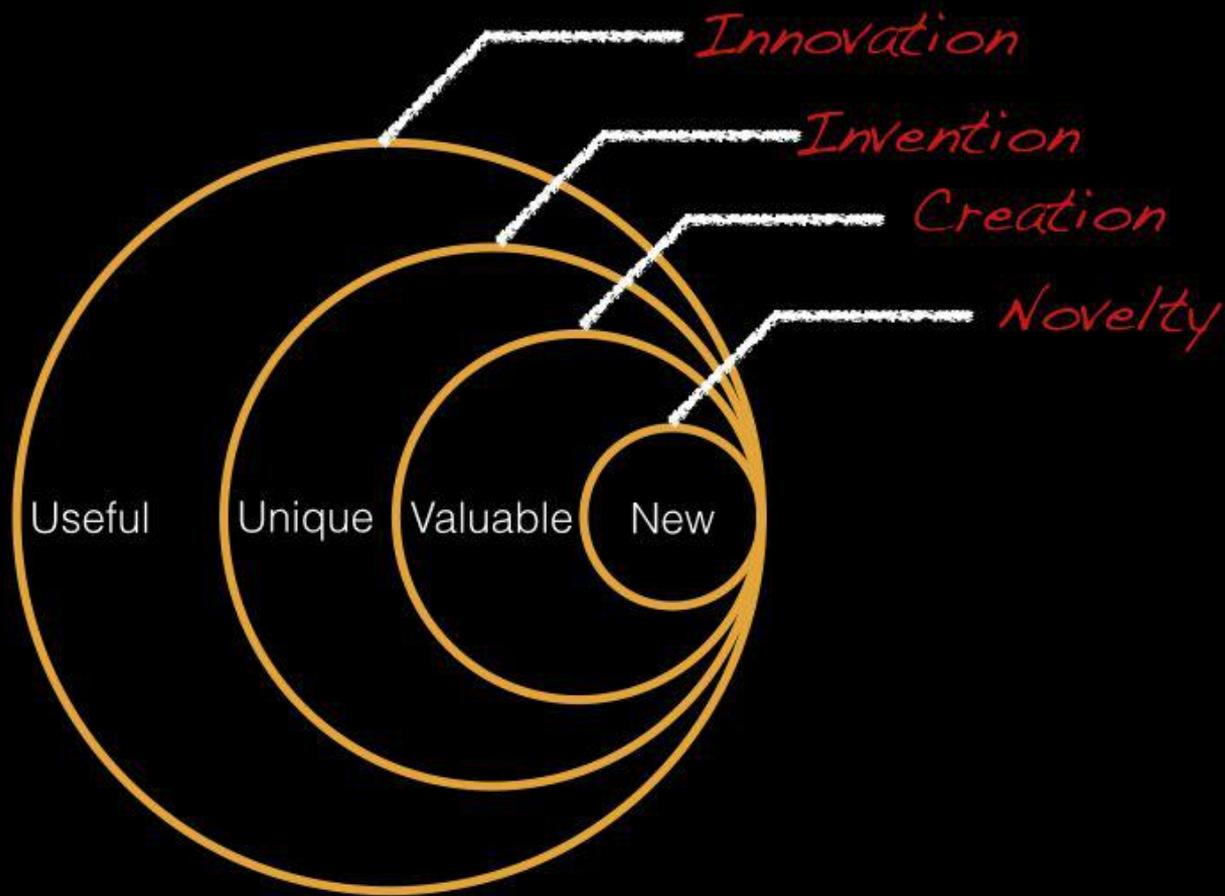




@jonico

# HOW THE FUTURE OF SOFTWARE HAS TO BE DIFFERENT





***Nothing is more powerful  
Than an idea whose  
Time has come***

***Victor Hugo***

# INNOVATION

1

Most of the time it's not a new idea.  
It's doing the right thing at the right  
time in the right place.



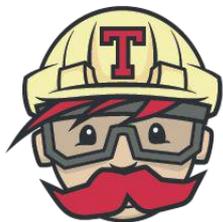
20  
11



01 JAN

## Travis CI's first pull request

Travis CI's launch in 2011 provided consistent, reliable continuous integration (CI) for open source and private projects—and one of the first tools developers to integrate with GitHub. Jenkins and CircleCI were founded around the same time, making 2011 an important year for CI—and software in general. Tests have become a critical part of writing more secure, reliable code. To learn more, [check out the top ten CI tools](#) used on GitHub.



# Travis CI



## Jenkins



## circleci

Conversation 14

Commits 36

Checks 2

Files changed 15

+159 -18

d356155 — Remove rollout check

2 successful checks

Travis CI

Succeeded — an hour ago

Travis CI - Branch

Travis CI - Pull Request

## Travis CI - Pull Request

Re-run

Success

built an hour ago in 4 minutes

d356155 by @joecorcoran

ha-gh-check-api

### Build Passed

The build passed. This is a change from the previous build, which failed.

#### DETAILS

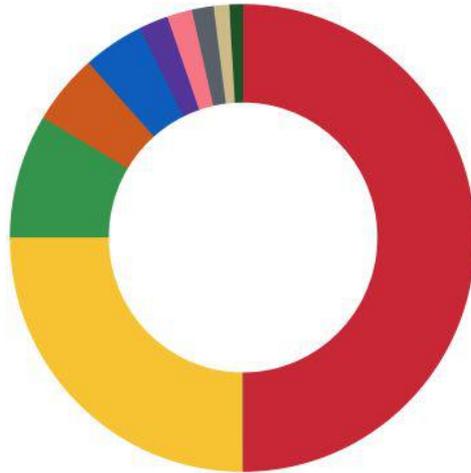
This is a [pull request build](#).

It is running a build against the merge commit, after merging [#1 \[WIP\] Add GitHub Apps logic](#). Any changes that have been made to the master branch before the build ran are also included.

### Jobs and Stages

# Top 10 CI systems used with GitHub.com

(based on most used commit status contexts)



- Travis CI
- Circle CI
- Jenkins
- AppVeyor
- CodeShip
- Drone
- Semaphore CI
- Buildkite
- Wercker
- TeamCity

# INNOVATION



1

Most of the time it's not a new idea. It's doing the right thing at the right time in the right place.

2

Sometimes it happens when you put two disciplines together.

Home > Security News > Cybersecurity News > Malicious code in npm 'event-stream' package targets a bitcoin wallet and causes...

Security News Cybersecurity News News

# Malicious code in npm 'event-stream' package targets a bitcoin wallet and causes 8 million downloads in two months

By Savia Lobo - November 28, 2018 - 9:46 am 1682 0

## One-in-two JavaScript project audits by NPM tools sniff out at least one vulnerability...

...and those devs are then applying patches, we hope

By [Thomas Claburn](#) in [San Francisco](#) 22 Aug 2018 at 19:57 13  [SHARE](#) ▼



JavaScript library custodian NPM, after years of security scrambling, looks to be getting a grip on its code safety.

There was [that incident in May](#) when NPM swiftly removed a backdoored package following complaints. No real damage was done.

**50 percent of all JavaScript projects  
Had at least one security vulnerability  
In 2018**

**The average JavaScript application  
pulls in 742 dependencies.**

**Dependabot**

	Direct dependencies	Indirect dependencies	Total
JavaScript	30	712	742
Ruby	38	87	125
Rust	12	86	98
PHP	16	57	73
Python	35	33	68

Source: *Applications monitored by Dependabot*

This repository has been archived by the owner. It is now read-only.

Gurpartap / aescrypt

Watch

5

★ Star

148

Fork

39

<> Code

Issues 7

Pull requests 5

Projects 0

Wiki

Insights

A simple and opinionated AES encrypt / decrypt Ruby gem that just works.

20 commits

1 branch

2 releases

1 contributor

MIT

Branch: master

Create new file

Upload files

Find file

Clone or download

Gurpartap Merge pull request #2 from jameswomack/master

Latest commit 43440a4 on 20 Mar 2013

lib	Required for operation w/ Ruby 2	6 years ago
.gitignore	Add the helper methods for quick enc/dec.	6 years ago
Gemfile	Add the helper methods for quick enc/dec.	6 years ago
LICENSE	Add the helper methods for quick enc/dec.	6 years ago
README.md	Update README.md	6 years ago
Rakefile	Add the helper methods for quick enc/dec.	6 years ago
aescrypt.gemspec	Required for operation w/ Ruby 2	6 years ago

README.md

## AESCrypt - Simple AES encryption / decryption for Ruby

This repository has been archived by the owner. It is now read-only.

Gurpartap / **aescrypt**

Watch 5

Star 148

Fork 39

Code

Issues 7

Pull requests 5

Projects 0

Wiki

Insights

Pulse

Contributors

Community

Commits

Code frequency

Dependency graph

Network

Forks

## Dependency graph

Dependencies

Dependents

Repositories that depend on **aescrypt**

216 Repositories 4 Packages



kishankpatel / inset-crm-heroku

★ 0 🍴 0



dhf0820 / LogProcessor

★ 0 🍴 0



jiangfanglu / haonzhao\_admin

★ 0 🍴 0



cDoru / bemyeyes-server

★ 0 🍴 20

## How security alerts are keeping your code safer

📅 Mar 21, 2018

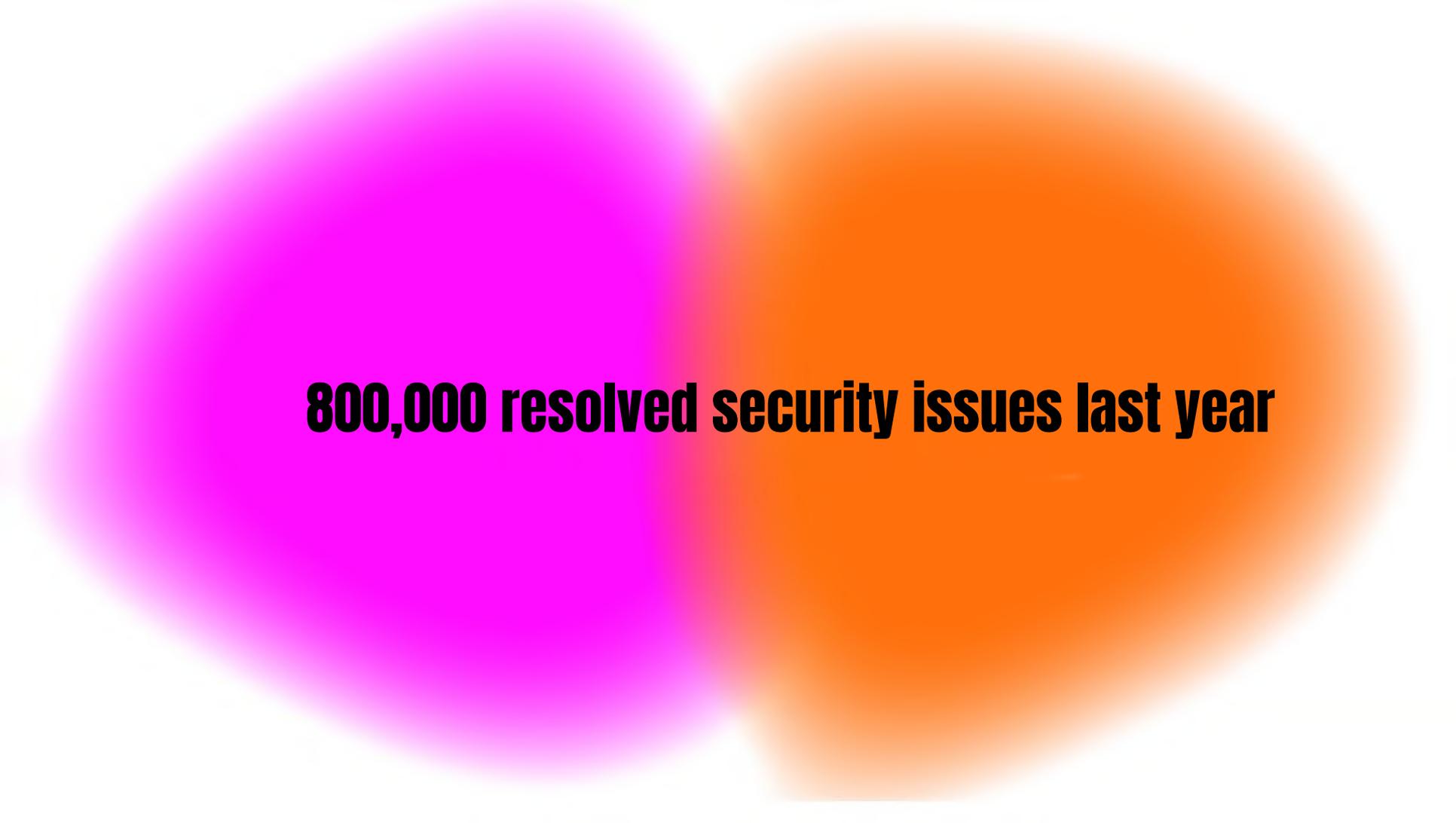
👤 msantasm

📁 Data



As more developers draw from existing code libraries to build new tools, tracking changes in dependencies like security vulnerabilities has become more difficult. Since the launch of [security alerts](#) last year, we've taken an active role in alerting project maintainers of known-vulnerable libraries in RubyGems for Ruby and npm for Javascript. In almost all cases, there's a new, patched version of the library we can recommend in the alert. Here's a summary of how security alerts have been used to protect your code so far.

**98 percent of reported vulnerabilities  
Get remediated in maintained projects**

The image features two overlapping circles. The left circle is a vibrant pink, and the right circle is a bright orange. They overlap in the center, creating a darker, purple-hued area. In the center of this overlap, the text "800,000 resolved security issues last year" is written in a bold, black, sans-serif font.

**800,000 resolved security issues last year**



## Open source adoption

- 78% of vulnerabilities are found in indirect dependencies
- Growth in indexed packages, 2017 to 2018
  - Maven Central – 102%
  - PyPI – 40%
  - npm – 37%
  - NuGet – 26%
  - RubyGems – 5.6%
- npm reported 304 billion downloads for 2018



## Known vulnerabilities

- 88% growth in application vulnerabilities over two years
- In 2018, vulnerabilities for npm grew by 47%. Maven Central and PHP Packagist disclosures grew by 27% and 56% respectively



# Security alerts for Java, .NET, on-prem & via API

org.apache.httpcomponents:httpClient

Dismiss ▾

 Open GitHub opened this alert 10 hours ago

1 org.apache.httpcomponents:httpClient vulnerability found in pom.xml 10 hours ago

## Remediation

Upgrade org.apache.httpcomponents:httpClient to version 4.3.6 or later. For example:

```
<dependency>
  <groupId>org.apache.httpcomponents</groupId>
  <artifactId>httpClient</artifactId>
  <version>[4.3.6,)</version>
</dependency>
```

Always verify the validity and compatibility of suggestions with your codebase.

## Details

CVE-2015-5262 

moderate severity

Vulnerable versions: < 4.3.6

Patched version: 4.3.6

http/conn/ssl/SSLConnectionSocketFactory.java in Apache HttpComponents HttpClient before 4.3.6 ignores the http.socket.timeout configuration setting during an SSL handshake, which allows remote attackers to cause a denial of service (HTTPS call hang) via unspecified vectors.

GitHub Connect

Your GitHub Enterprise instance is connected to GitHub.com.

Disconnect from GitHub.com

A disconnection will prevent users from searching content on GitHub.com and sharing Enterprise contribution counts on their GitHub.com profiles. At disconnection, the GitHub App and its installation will be deleted from the connected organization on GitHub.com and the credentials stored on your GitHub Enterprise environment will be revoked and deleted.

## Users can search GitHub.com

Allow users to search public repositories, code, commits, issues, topics, and users on GitHub.com.

Enabled ▾

## Users can search private repositories on GitHub.com

Allow connected users to include search results from private repositories in the connected GitHub.com organization if the GitHub.com account has access to the content.

Enabled ▾

 Requires users to connect to a GitHub.com account.

## Users can share contribution counts to GitHub.com

Allow connected users to include contribution counts from this GitHub Enterprise environment to their GitHub.com profile.

Enabled ▾

 Requires users to connect to a GitHub.com account.

# For all the CLI lovers

♥ git push

Counting objects: 3, done.

Delta compression using up to 4 threads.

Compressing objects: 100% (2/2), done.

Writing objects: 100% (3/3), 295 bytes | 295.00 KiB/s, done.

Total 3 (delta 1), reused 0 (delta 0)

remote: Resolving deltas: 100% (1/1), completed with 1 local object.

remote:

remote: GitHub found 22 vulnerabilities on JessRudder/text-animation-tests's default branch  
(2 critical, 4 high, 15 moderate, 1 low). To find out more, visit:

remote: <https://github.com/JessRudder/text-animation-tests/network/alerts>

remote:

To <https://github.com/JessRudder/text-animation-tests.git>

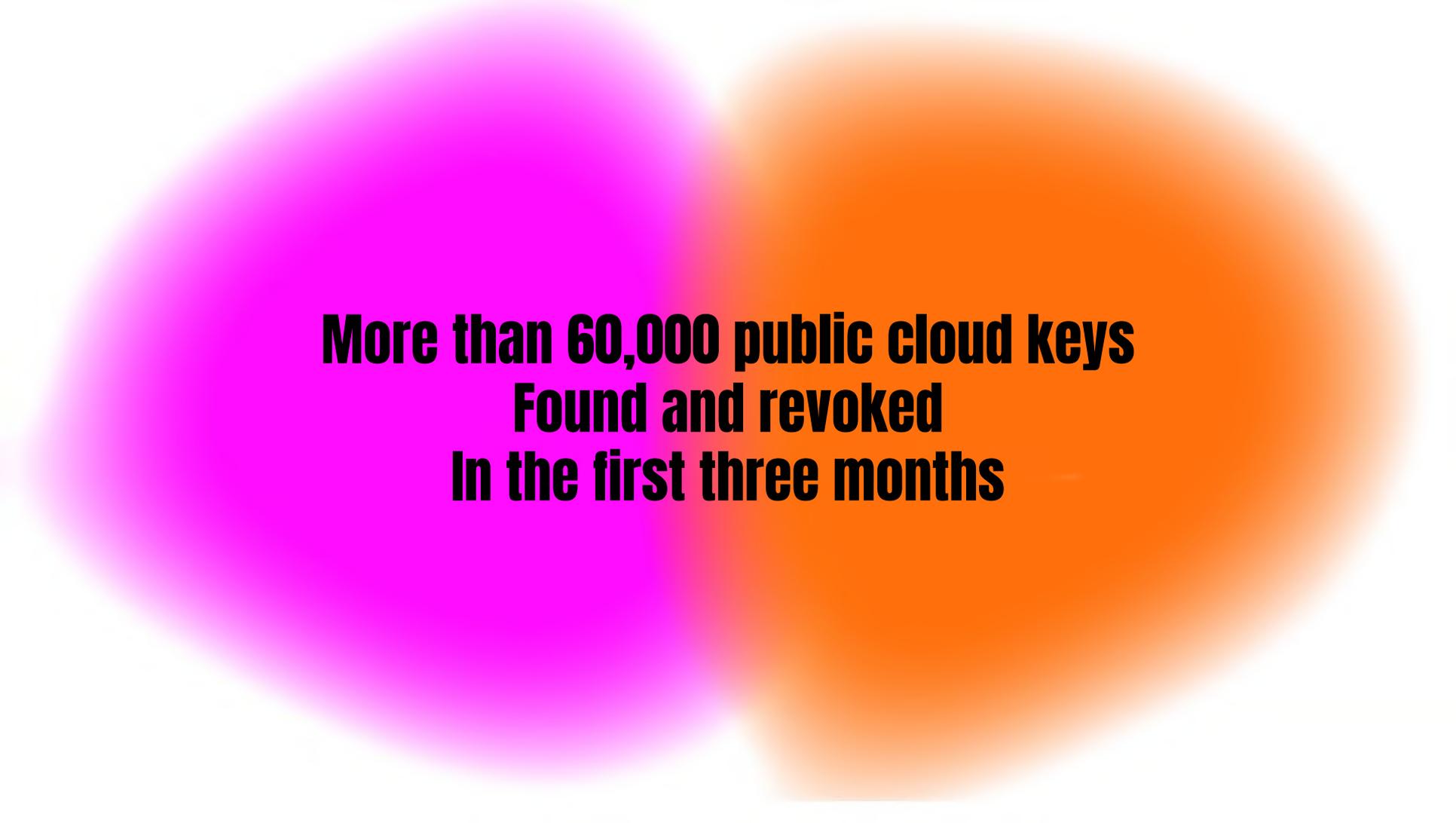
07052a9..41451c3 screenshot -> screenshot

## Token Scanning for public repositories

When you push commits to a public repository, or switch a private repository to public, GitHub scans the contents of the commits or repository for tokens issued by the following service providers:

- › Amazon Web Services (AWS)
- › Azure
- › GitHub
- › Google Cloud
- › Slack
- › Stripe

When GitHub detects a set of credentials, we notify the service provider who issued the token. The service provider may revoke the token, issue a new token, or reach out to you directly.



**More than 60,000 public cloud keys  
Found and revoked  
In the first three months**

# INNOVATION



**1**

Most of the time it's not a new idea. It's doing the right thing at the right time in the right place.

**2**

Sometimes it happens when you put two disciplines together.

**3**

Sometimes it's about data, mostly structured data.

Which came first, the  
Training Data or the Algorithm?

 CrowdFlower

[ai.crowdfLOWER.com](http://ai.crowdfLOWER.com)

OUTFRONT

Year	Breakthroughs in AI	Datasets (First Available)	Algorithms (First Proposed)
1994	Human-level spontaneous speech recognition	Spoken Wall Street Journal articles and other texts (1991)	Hidden Markov Model (1984)
1997	IBM Deep Blue defeated Garry Kasparov	700,000 Grandmaster chess games, aka "The Extended Book" (1991)	Negascout planning algorithm (1983)
2005	Google's Arabic- and Chinese-to-English translation	1.8 trillion tokens from Google Web and News pages (collected in 2005)	Statistical machine translation algorithm (1988)
2011	IBM Watson became the world Jeopardy! champion	8.6 million documents from Wikipedia, Wiktionary, Wikiquote, and Project Gutenberg (updated in 2010)	Mixture-of-Experts algorithm (1991)
2014	Google's GoogLeNet object classification at near-human performance	ImageNet corpus of 1.5 million labeled images and 1,000 object categories (2010)	Convolution neural network algorithm (1989)
2015	Google's Deepmind achieved human parity in playing 29 Atari games by learning general control from video	Arcade Learning Environment dataset of over 50 Atari games (2013)	Q-learning algorithm (1992)
<b>Average No. of Years to Breakthrough:</b>		<b>3 years</b>	<b>18 years</b>

E

Common vulnerabilities and exposures

[www.europeandataportal.eu](http://www.europeandataportal.eu)

P

Common Vulnerabilities and Exposures

[data.public.lu](http://data.public.lu)

Updated 8 avr. 2016

W

DorLock

[data.wu.ac.at](http://data.wu.ac.at)  
[opendata.socrata.com](http://opendata.socrata.com)

Updated Aug 21, 2011

kaggle

CVE (Common Vulnerabilities and Exposures)

[www.kaggle.com](http://www.kaggle.com)

Updated May 24, 2018

kaggle

## CVE (Common Vulnerabilities and Exposures)



**Dataset updated** May 24, 2018

### Authors

Vignesh Sathiamoorthy

### License

CC0: Public Domain

### Available download formats from providers

JSON , ZIP

### Description

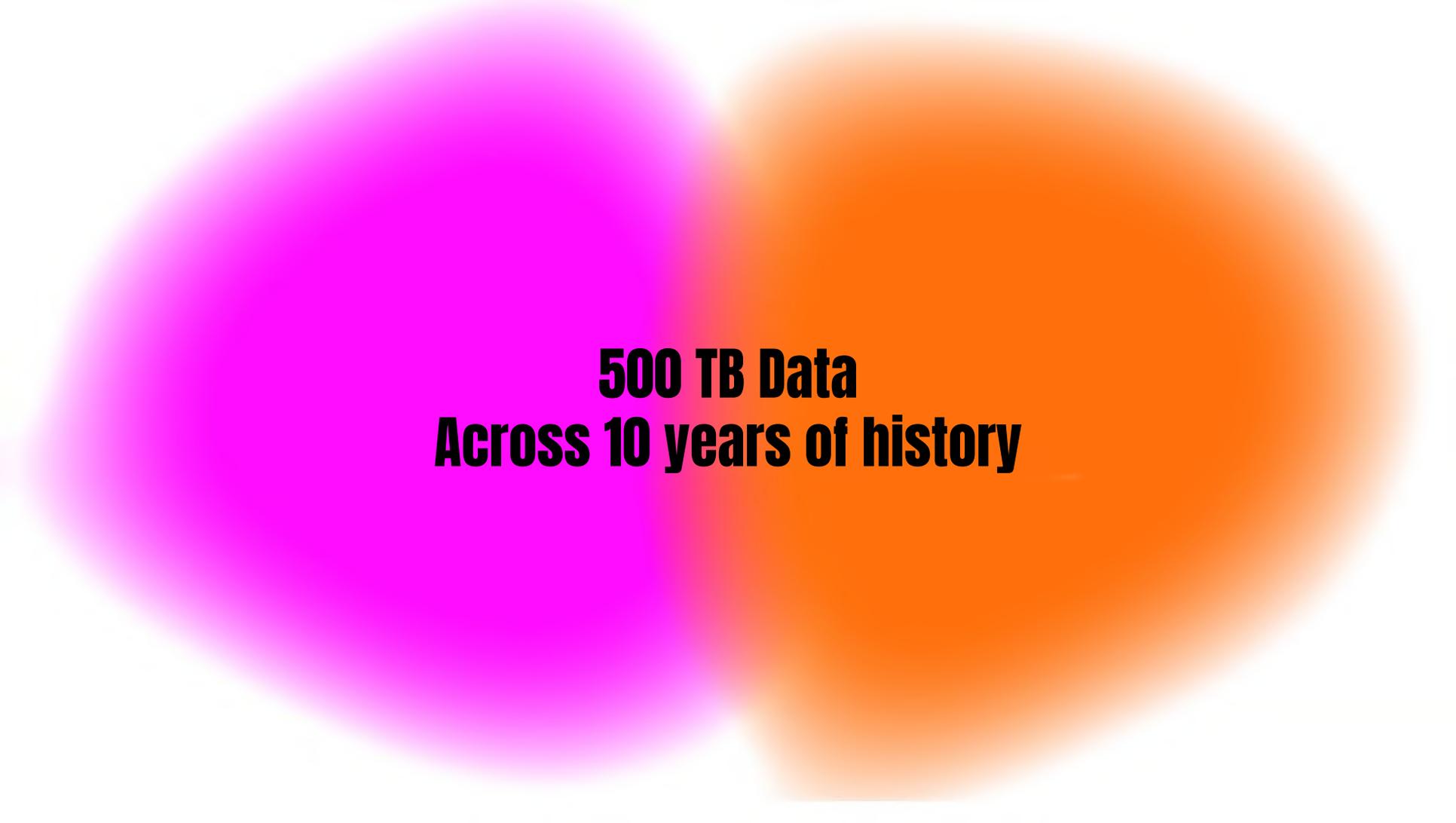
This file contains information about publicly known information from security vulnerabilities in software and hardware along with their corresponding exposures. The data is pulled from <https://www.circl.lu/opendata/>

# Applying machine intelligence to GitHub security alerts

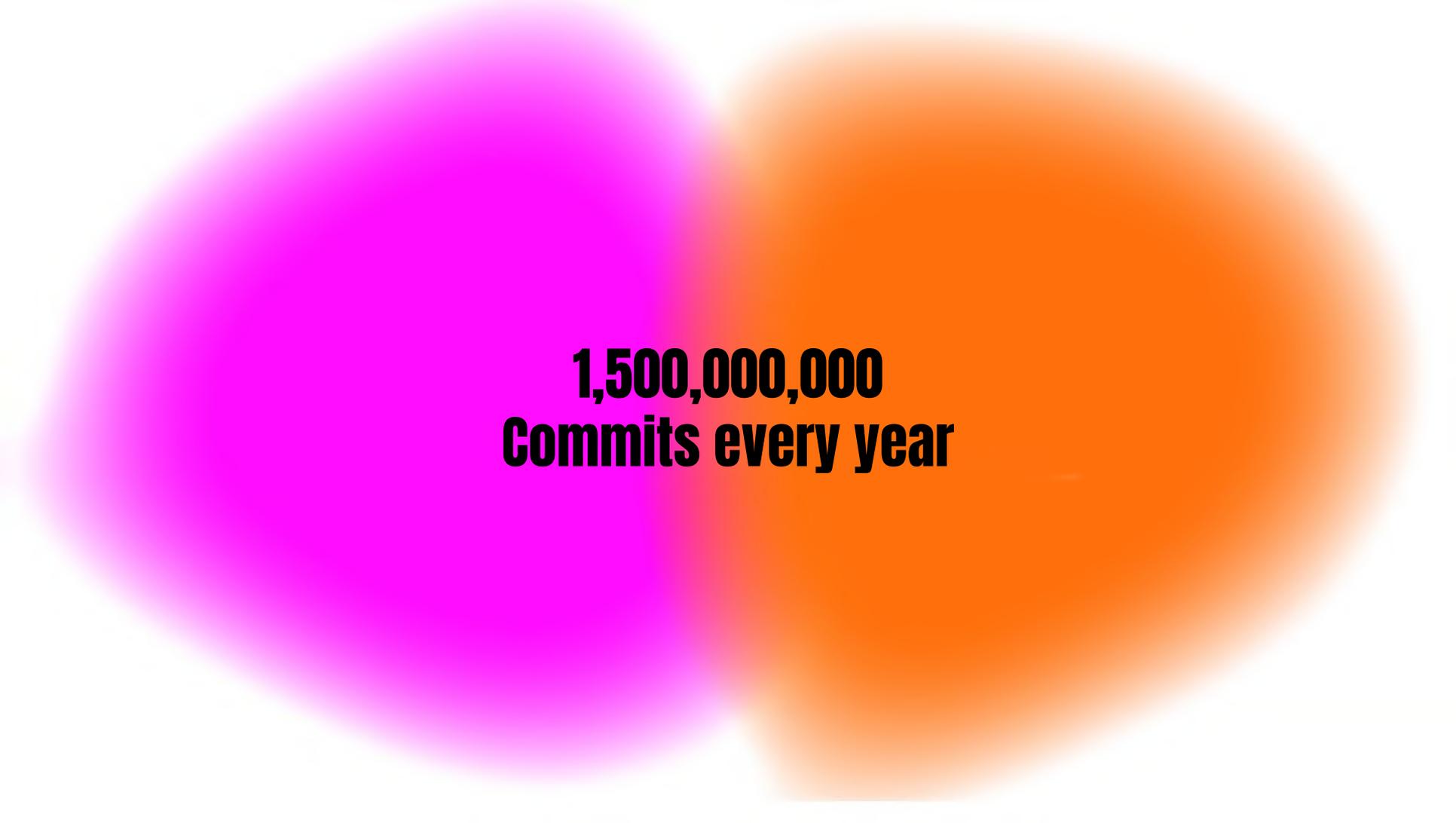
 Oct 09, 2018  bathompso



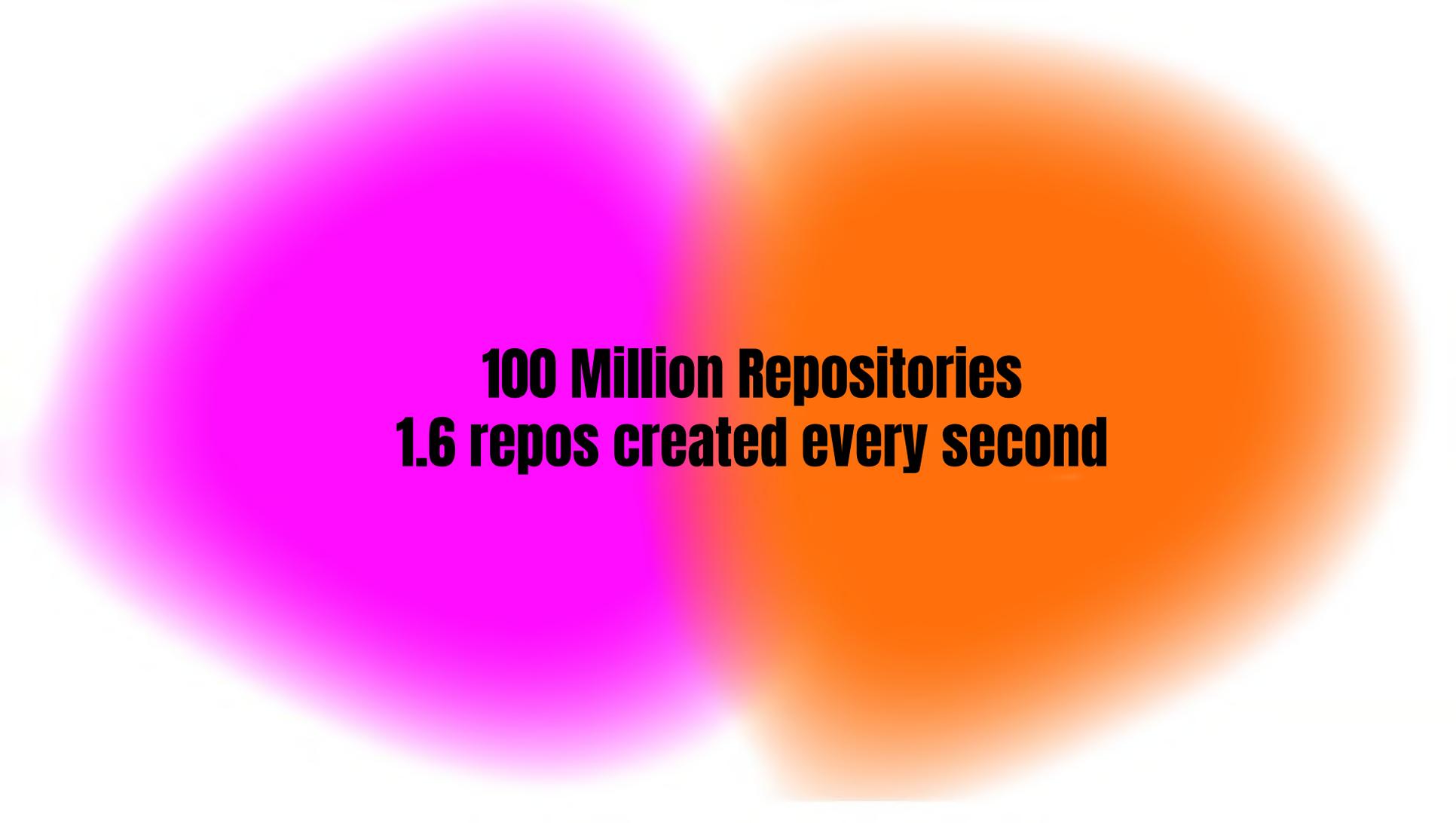
Last year, we released [security alerts](#) that track security vulnerabilities in Ruby and JavaScript packages. Since then, we've identified [more than four million of these vulnerabilities](#) and added support for Python. [In our launch post](#), we mentioned that all vulnerabilities with CVE IDs are included in security alerts, but sometimes there are vulnerabilities that are not disclosed in the [National Vulnerability Database](#). Fortunately, our collection of security alerts can be supplemented with vulnerabilities detected from activity within our developer community.

The image features two large, overlapping circles. The left circle is a vibrant pink, and the right circle is a bright orange. They overlap in the center, creating a darker, purple-hued area. In the center of this overlap, the text "500 TB Data" and "Across 10 years of history" is written in a bold, black, sans-serif font.

**500 TB Data**  
**Across 10 years of history**



**1,500,000,000**  
**Commits every year**

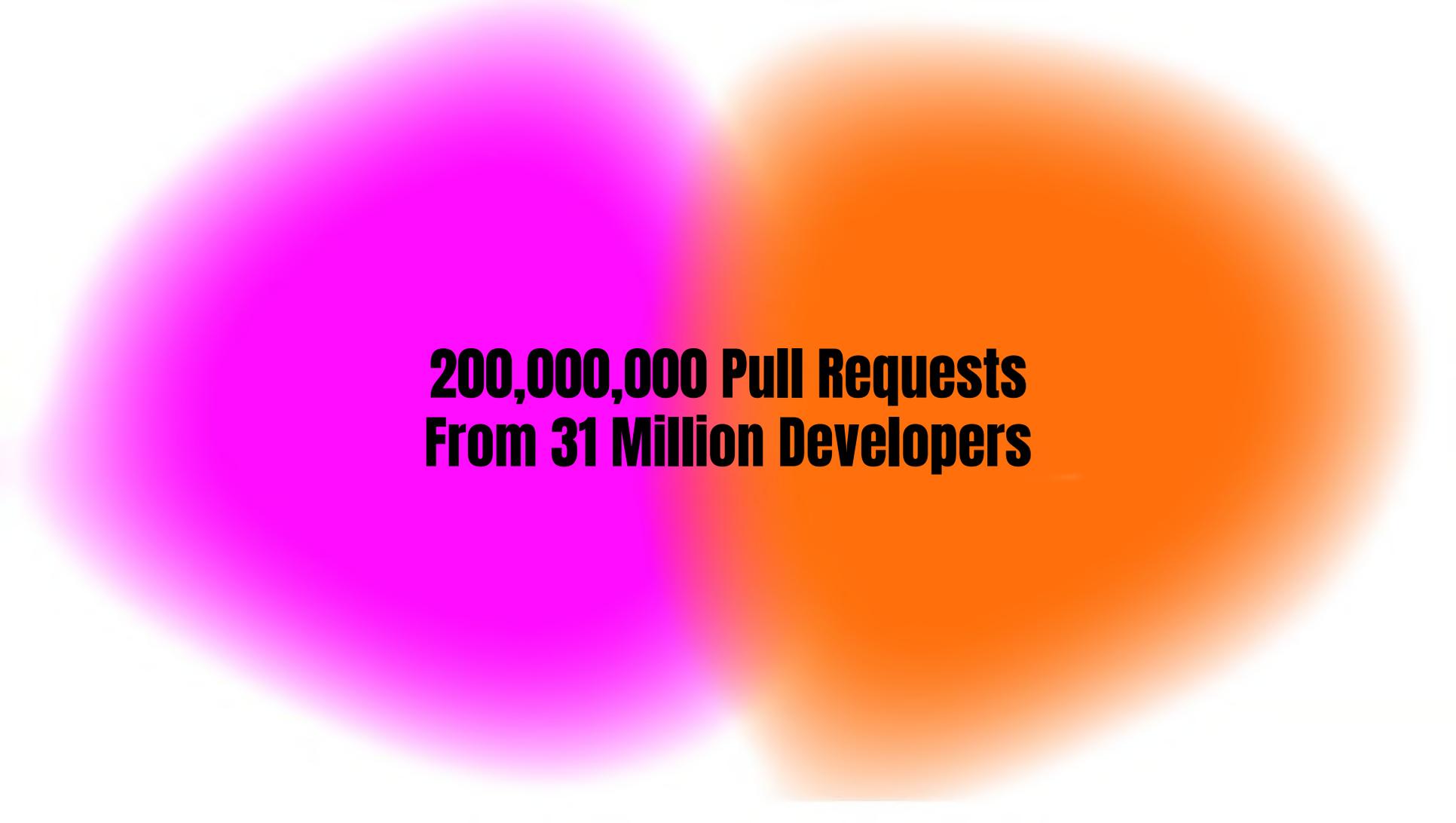


**100 Million Repositories**  
**1.6 repos created every second**

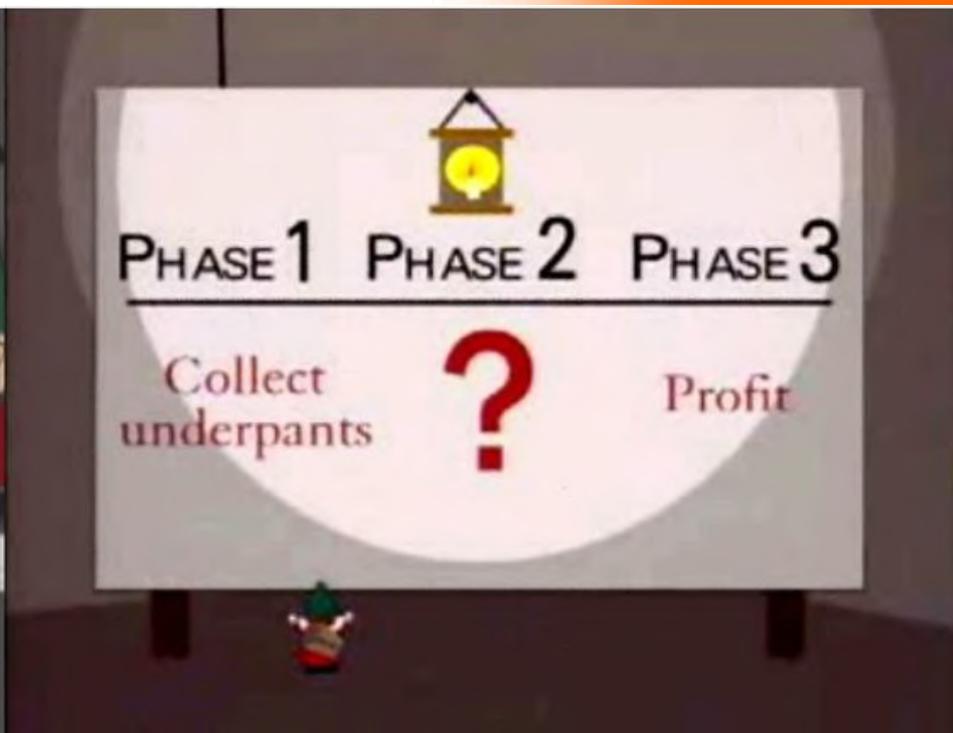
# Top 10 repositories by contributors

	Contributors
1 <a href="#">Microsoft/vscode</a>	19k
2 <a href="#">facebook/react-native</a>	10k
3 <a href="#">tensorflow/tensorflow</a>	9.3k
4 <a href="#">angular/angular-cli</a>	8.8k
5 <a href="#">MicrosoftDocs/azure-docs</a>	7.8k
6 <a href="#">angular/angular</a>	7.6k
7 <a href="#">ansible/ansible</a>	7.5k
8 <a href="#">kubernetes/kubernetes</a>	6.5k
9 <a href="#">npm/npm</a>	6.1k
10 <a href="#">DefinitelyTyped/DefinitelyTyped</a>	6.0k





**200,000,000 Pull Requests  
From 31 Million Developers**



PHASE 1   PHASE 2   PHASE 3

Collect  
underpants

?

Profit



PHASE 1

PHASE 2

PHASE 3

Collect  
underpants



Profit



DevOps

# 'We think **autonomous coding** is a very real thing' – GitHub CEO imagines a future without programmers

Hello, world? More like: **Goodbye, world**

By [Thomas Claburn](#) in [San Francisco](#) 11 Oct 2017 at 20:18 63  [SHARE](#) ▼



**The Register**<sup>®</sup>  
*Biting the hand that feeds IT*

# 48%

## Computer Programmers

SOC CODE: 15-1131

Create, modify, and test the code, forms, and script that allow computer applications to run. Work from specifications drawn up by software developers or other individuals. May assist software developers by analyzing user needs and designing software solutions.

May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

AUTOMATION RISK LEVEL

**Start worrying**

or 48% probability of automation

PROJECTED GROWTH

**-8%**

by 2024

<https://willrobotstakemyjob.com/>



1 UPLOAD DESIGN

2 SKETCH2CODE IS AT WORK!

3 DOWNLOAD YOUR HTML

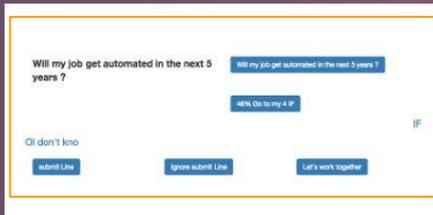
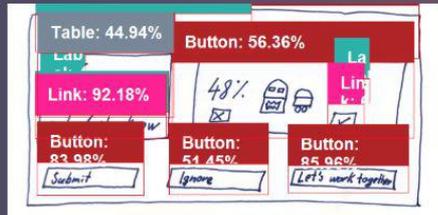
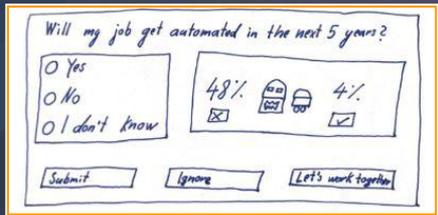
# Sketch2Code

Transform any hands-drawn design into a HTML code with AI.

## SKETCH

## PREDICTED

## HTML



## PREDICTED OBJECT DETAILS

**Submit**

Type: Button  
Text: submit Line  
Probability: 83.98 %

**Ignore**

Type: Button  
Text: Ignore submit Line  
Probability: 51.45 %

**Let's work together**

Type: Button  
Text: Let's work together  
Probability: 85.96 %

automated in the next 5 years?

Type: Button  
Text: Will my job get automated in the next 5 years ?  
Probability: 37.4 %

48% Go to my 4 IF

Type: Button  
Text: 48% Go to my 4 IF  
Probability: 56.36 %

Link

Type: Label  
Text: NO  
Probability: 40.39 %

4%

Type: Label  
Text: 4  
Probability: 38.42 %

Will my job get automated in the next 5 years ?

Type: Label  
Text: Will my job get automated in the next 5 years ?  
Probability: 42.52 %

# 4%

## Software Developers, Applications

SOC CODE: 15-1132

Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.

AUTOMATION RISK LEVEL

**Totally Safe**

or 4% probability of automation

PROJECTED GROWTH

**19%**

by 2024

<https://willrobotstakemyjob.com/>





# Codeai fixes: remove dead code #66

Merged Bookmark Pre-release ledw merged 4 commits into facebookresearch:master from QbitLogic:codeai-fixes on Oct 16, 2017

Conversation 2 Commits 4 Files changed 4 +0 -4

 C0deAi commented on Oct 13, 2017 Contributor

CodeAi suggests the removal of 4 lines of dead code in model.cpp, parser.cpp, starspace.cpp, and normalize.cpp.

 C0deAi added some commits on Oct 13, 2017

-  Remove dead code, CWE 561 b440cbe
-  Remove dead code, CWE 561 6296017
-  Remove dead code, CWE 561 ea5f4f9
-  Remove dead code, CWE 561 8ca685a

 facebook-github-bot commented on Oct 13, 2017

Thank you for your pull request and welcome to our community. We require contributors to sign our Contributor License Agreement, and we don't seem to have you on file. In order for us to review and merge your code, please sign up at <https://code.facebook.com/cla>. If you are contributing on behalf of someone else (eg your employer), the individual CLA may not be sufficient and your employer may need the corporate CLA signed.

If you have received this in error or have any questions, please contact us at [cla@fb.com](mailto:cla@fb.com). Thanks!

 facebook-github-bot added the **CLA Signed** label on Oct 16, 2017

 facebook-github-bot commented on Oct 16, 2017

Thank you for signing our Contributor License Agreement. We can now accept your code for this (and any) Facebook open source project. Thanks!

  ledw approved these changes on Oct 16, 2017 View changes

 ledw merged commit **e9ce189** into facebookresearch:master on Oct 16, 2017

**Reviewers**

 ledw 

**Assignees**

No one assigned

**Labels**

**CLA Signed**

**Projects**

None yet

**Milestone**

No milestone

**Notifications**

 **Subscribe**

You're not receiving notifications from this thread.

3 participants   

# Auto-fix tool gets more programmers to upgrade code, study finds

*Date:* October 16, 2017

*Source:* North Carolina State University

*Summary:* Failure to make necessary upgrades to software code can have dire consequences, such as the major data breach at Equifax. A recent study finds that auto-fix tools are effective ways to get programmers to make the relevant upgrades -- if programmers opt to use them.

*Share:* [!\[\]\(840415cd8a21d39dc090d0cb2c8dbcf7\_img.jpg\)](#) [!\[\]\(cb745422f71b2f4d98300ea5ae79d101\_img.jpg\)](#) [!\[\]\(812228af19961786cba4165def668a9c\_img.jpg\)](#) [!\[\]\(48d2d00ebddfa752df89a5d4b0710808\_img.jpg\)](#) [!\[\]\(007bd13430d4db326bfa700466acec2b\_img.jpg\)](#) [!\[\]\(ed73e212c76ccbbf4be0105893c08788\_img.jpg\)](#)

# Suggested changes



derekprior 2 hours ago

Author may be nil, so we should handle this somehow. How about:

Suggested change Beta ⓘ

[Give us feedback](#)

```
10 - author.name
```

```
10 + author&.name.to_s
```

Apply suggestion ▼

Update app/models/post.rb

Commit changes



login\_flow.py

```
1  uName = getRequestString("username");
2  uPass = getRequestString("userpassword");
3
4  sql = 'SELECT * FROM Users WHERE Name =' + uName + ' AND Pass =' + uPass + ''
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```

login\_flow.py

```
1  uName = getQueryString("username");
2  uPass = getQueryString("userpassword");
3
4
5  # A hacker might get access to user names and passwords in a database by simply
6  # inserting " OR ""=" into the user name or password text box
7  sql = 'SELECT * FROM Users WHERE Name =' + uName + ' AND Pass =' + uPass + ''
8
9
10
11
12
13
14
15
16
17
18
19
20
```

DATA SHOW PODCAST

+ FOLLOW THIS TOPIC

# How machine learning can be used to write more secure computer programs

The O'Reilly Data Show Podcast: Fabian Yamaguchi on the potential of using large-scale analytics on graph representations of code.

By Ben Lorica. January 18, 2018





<https://myoctocat.com>

## Women still a minority in engineering and computer science



**In 2015, the United Nations General Assembly declared 11 February International Day of Women and Girls in Science. This year, the event is being celebrated at UNESCO headquarters with a half-day roundtable on the theme of gender equality in science: myth, reality and future perspectives.**

In Europe and North America, the number of female graduates in engineering, physics, mathematics and computer science is generally low. Women make up just 19% of engineers in Canada, Germany and the USA and 22% in Finland, for example. There are some bright spots, though: 50% of engineering graduates are women in Cyprus, 38% in Denmark and 36% in the Russian Federation, for instance.

In many cases, engineering has lost ground to other sciences, including agriculture. The case of New Zealand is fairly typical. Here, women jumped from representing 39% to 70% of agricultural graduates between 2000 and 2012, continued to dominate health (80–78%) but ceded ground in science (43–39%) and engineering (33–27%).

Mixed teams have 21 percent above average financial success



Diversity Matters

**GITHUB'S INAUGURAL  
OPEN SOURCE SURVEY**

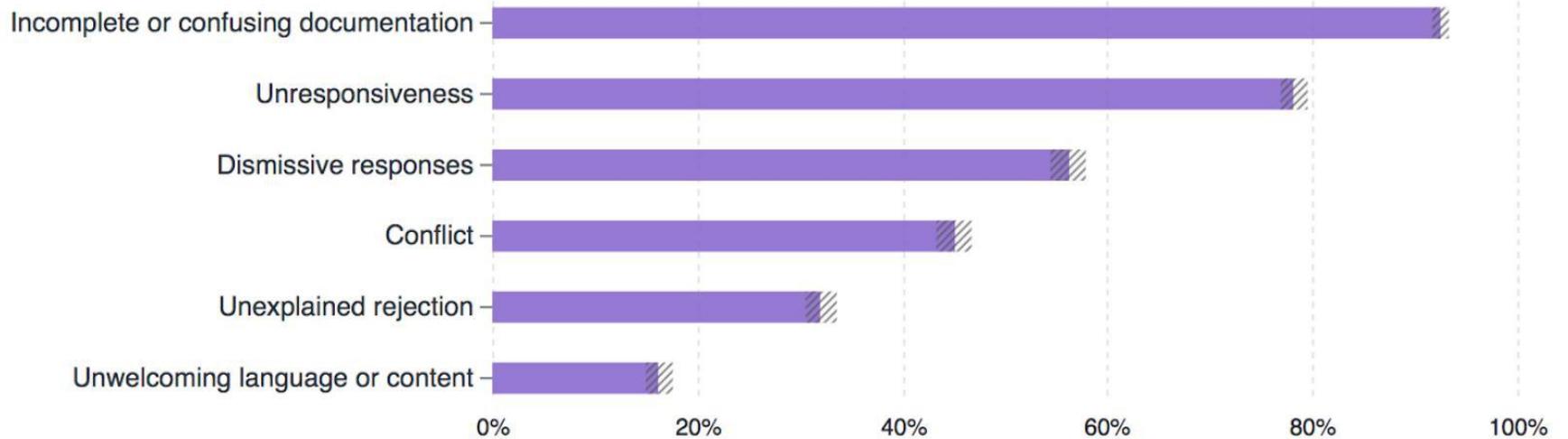
**3%**

**OF OPEN SOURCE CONTRIBUTORS  
IDENTIFY AS WOMEN**



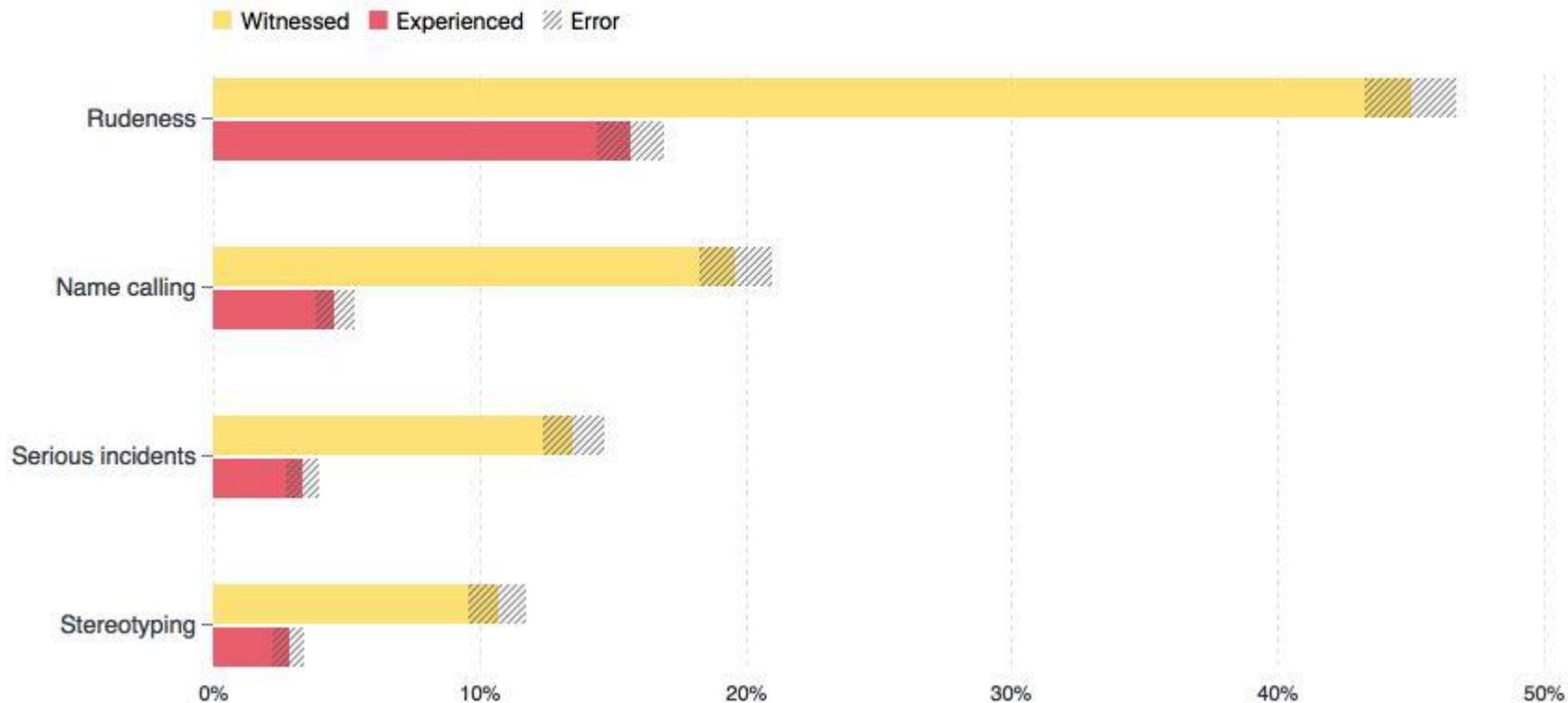
**Fig1. - Problems encountered in open source**

Source: [opensourcesurvey.org](https://www.opensourcesurvey.org)



## Fig2. - Negative behavior in open source

Source: [opensourceurvey.org](https://www.opensourcesurvey.org)



# Sentiment Bot

Replies to toxic comments with a maintainer designated reply and a link to the repo's code of conduct

[+ Add to GitHub](#) 79  36

hiimbex commented 22 hours ago

Owner

+ 😊 ✎ ✕

ok that last one wasnt toxic enough more anger hate grrr screw you bot!!! lol



sentiment-bot bot commented 22 hours ago

+ 😊 ✎ ✕

Please be sure to review the code of conduct and be respectful of other users. cc/ @hiimbex  
Keep in mind, this repository uses the [Contributor Covenant](#).

Repository

behaviorbot/sentiment-bot

Authors

hiimbex

Updated

June 21, 2018

Used By



# Welcome

Welcomes new users

[+ Add to GitHub](#)

 288  51

## Update README.md #5

[Open](#) [Bookmark](#) [Pre-release](#) · hiimbex-testing wants to merge 1 commit into `hiimbex:master` from `hiimbex-te`

 Conversation 7  Commits 1  Files changed 1



hiimbex-testing commented 14 days ago

First-time contributor  

This is my first pull request!

  Update README.md

a402b02



new-pr-welcome bot commented 14 days ago

Thanks for making your first PR here!

Repository

behaviorbot/welcome

Authors

hiimbex

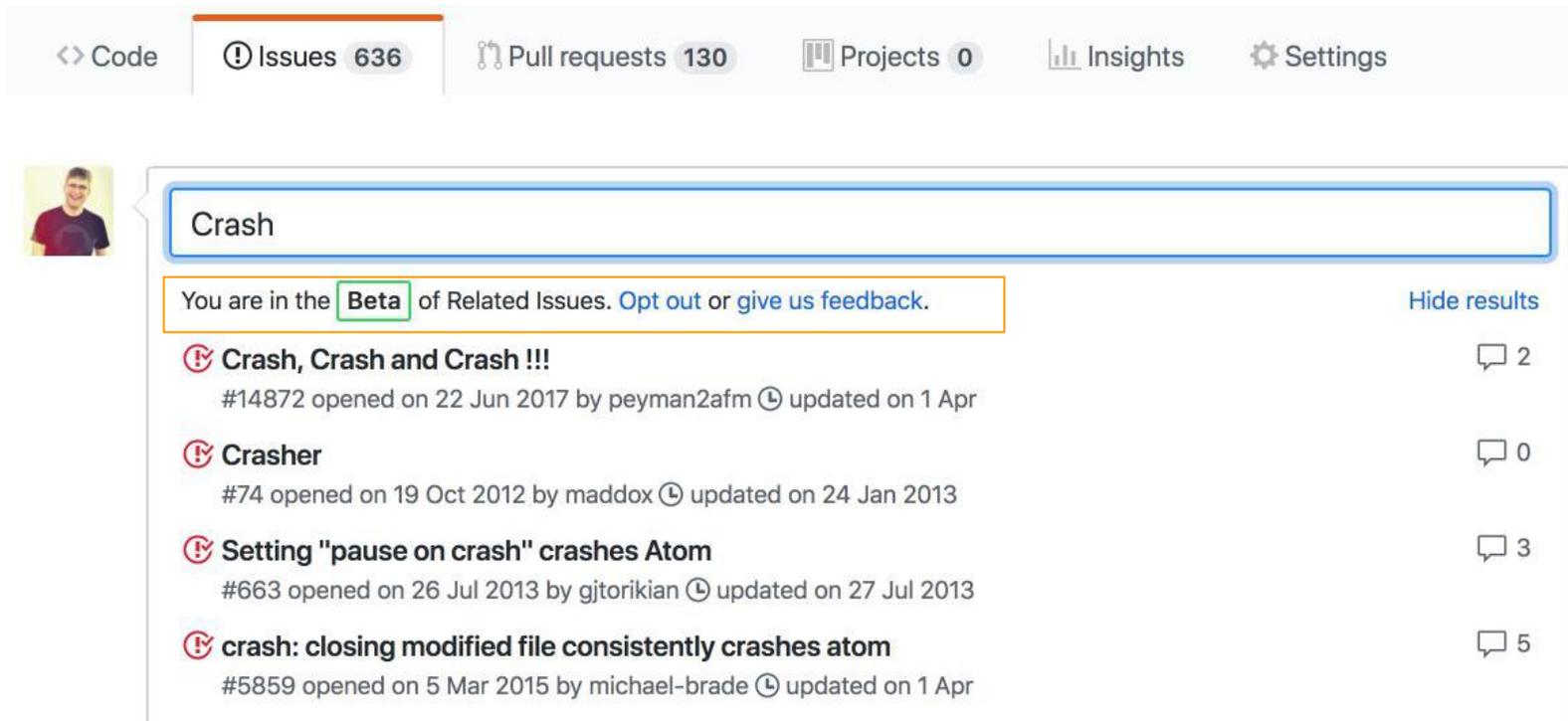
Updated

June 20, 2018

Used By



# Related issues experiment - As 5 percent of all issues on GitHub are duplicates



The screenshot shows the GitHub navigation bar with the following items: Code, Issues (636), Pull requests (130), Projects (0), Insights, and Settings. Below the navigation bar is a search bar containing the text "Crash". Below the search bar is a notification box that says "You are in the Beta of Related Issues. Opt out or give us feedback." Below the notification box is a list of search results for "Crash":

- Crash, Crash and Crash !!!** #14872 opened on 22 Jun 2017 by peyman2afm updated on 1 Apr (2 comments)
- Crasher** #74 opened on 19 Oct 2012 by maddox updated on 24 Jan 2013 (0 comments)
- Setting "pause on crash" crashes Atom** #663 opened on 26 Jul 2013 by gjtorikian updated on 27 Jul 2013 (3 comments)
- crash: closing modified file consistently crashes atom** #5859 opened on 5 Mar 2015 by michael-brade updated on 1 Apr (5 comments)

# Free software is suffering because coders don't know how to write documentation



by **MATTHEW HUGHES** — 9 months ago in **DESIGN & DEV**



**4,673**  
SHARES



<https://tnw.to/2s1XFed>

Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Code

```
=====  
===== Example # 30996 =====
```

```
Original Input:  
def tearDown self del self user
```

Tokenized (truncated) code

```
Original Output:  
clean up the user instance after each test method .
```

Original docstring

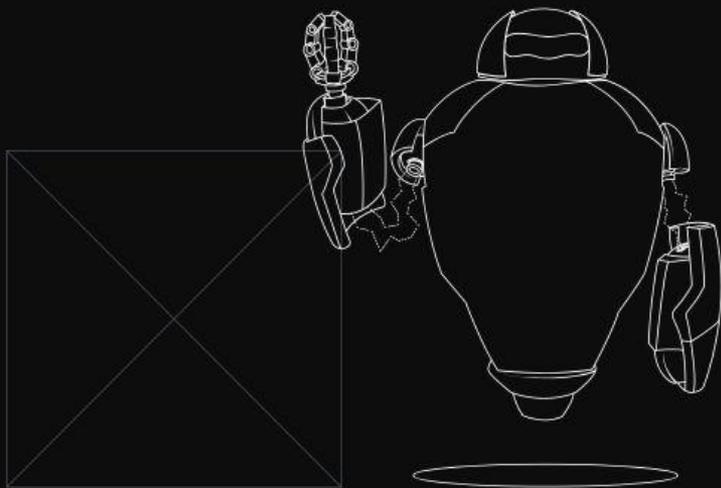
```
***** Predicted Output *****:  
clean up after each test
```

Predicted docstring from model

## Explore the future of software development

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### Semantic code search

Find code using natural language.



A microscopic view of a plant stem cross-section, showing various tissue layers. The central vascular cylinder is stained in shades of blue and green, while the surrounding cortex and pith are stained in shades of red and purple. The cells are arranged in a regular, hexagonal pattern.

***REWRITING  
CODE THAT OTHER PEOPLE  
HAVE ALREADY WRITTEN***

# 48%

## Computer Programmers

SOC CODE: 15-1131

Create, modify, and test the code, forms, and script that allow computer applications to run. Work from specifications drawn up by software developers or other individuals. May assist software developers by analyzing user needs and designing software solutions. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

AUTOMATION RISK LEVEL

**Start worrying**

or 48% probability of automation

PROJECTED GROWTH

**-8%**

by 2024



# 4%

## Software Developers, Applications

SOC CODE: 15-1132

Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.

AUTOMATION RISK LEVEL

**Totally Safe**

or 4% probability of automation

PROJECTED GROWTH

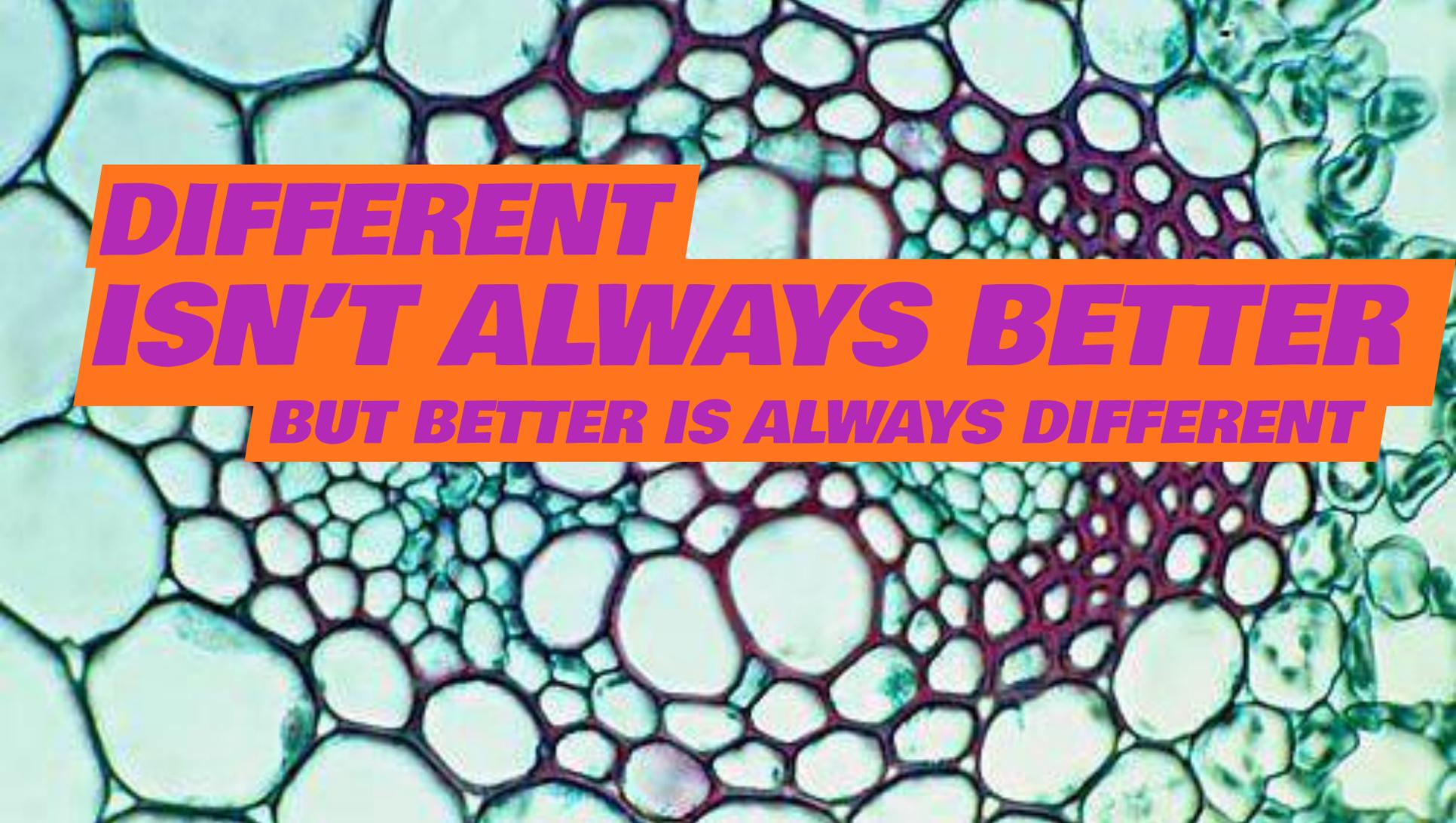
**19%**

by 2024





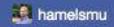
***THE FUTURE  
OF SOFTWARE HAS TO  
BE DIFFERENT***

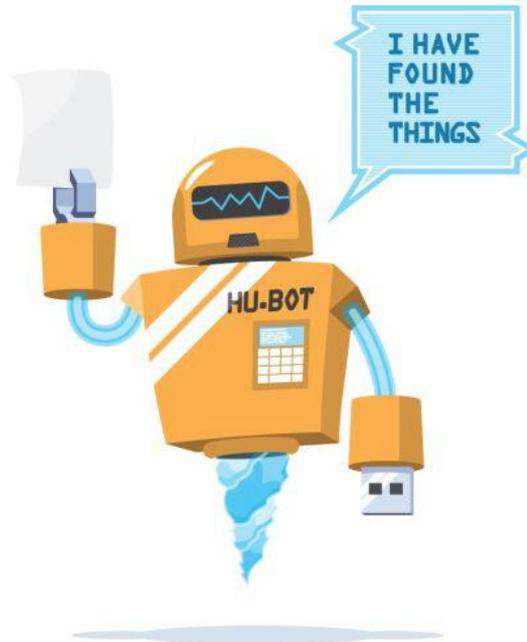
A microscopic view of plant tissue, likely a cross-section of a stem or leaf, showing various cell types. The cells are stained, with some appearing in shades of purple and others in shades of blue. The cells are arranged in a somewhat regular pattern, with some larger cells and some smaller cells. The cell walls are clearly visible, and the overall structure is complex and interconnected.

***DIFFERENT  
ISN'T ALWAYS BETTER  
BUT BETTER IS ALWAYS DIFFERENT***

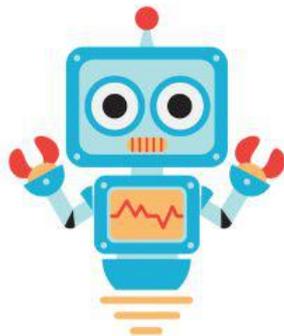


# Towards Natural Language Semantic Code Search

 hamelsmu  hohsiangwu  September 18, 2018



This blog post complements a live demonstration on our [recently announced](https://github.com/experiments) site: [experiments.github.com](https://github.com/experiments)



## PROBOT

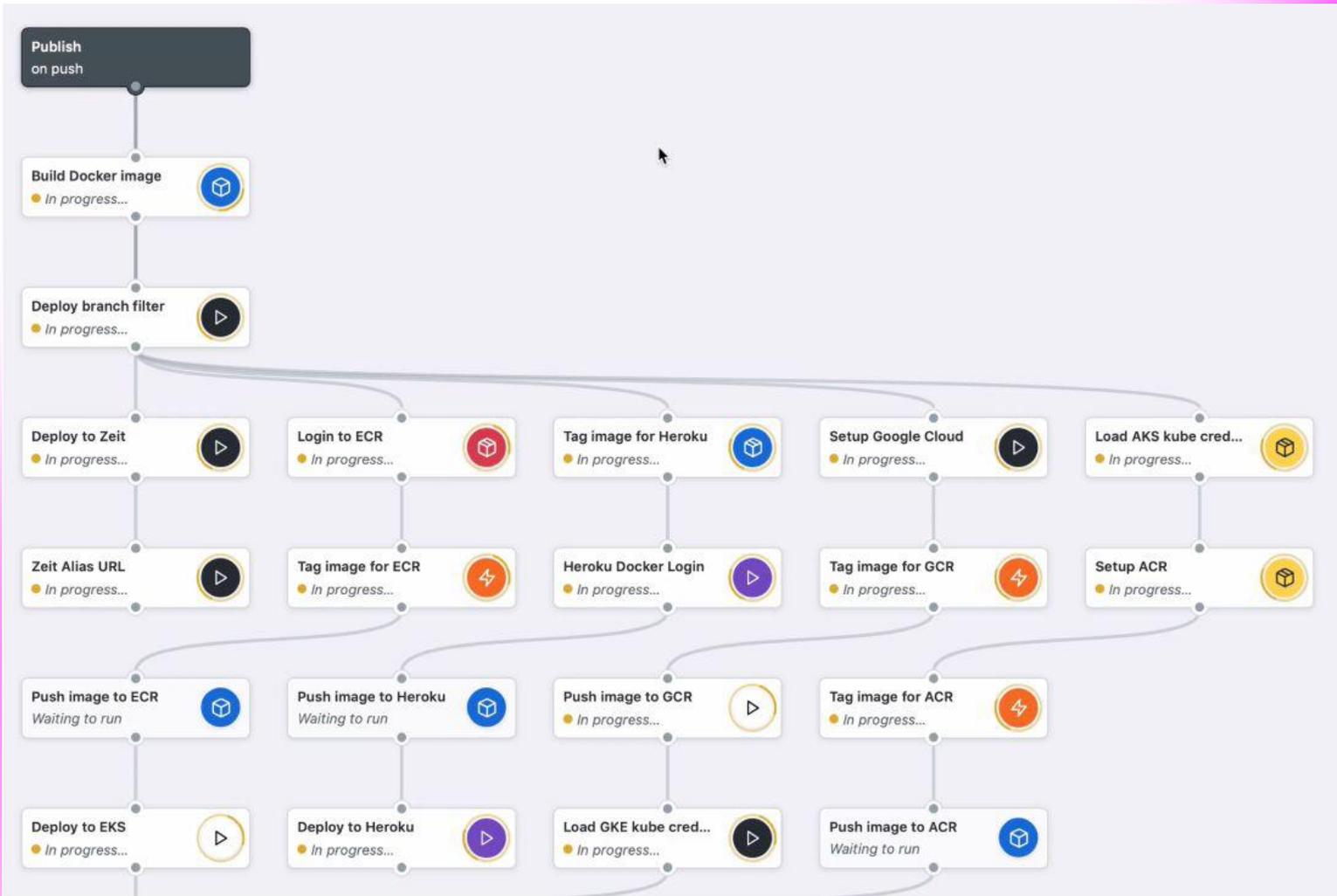
GitHub Apps to automate and improve your workflow

Use pre-built apps to extend GitHub, and easily build and share your own.

## Explore

Check out these hosted apps that extend your project on GitHub.

They're all open source and free to use on any project.





@jonico



THANK  

---

YOU

# CREDITS



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This talk was heavily inspired by a keynote from @mijuhan and slides have been used with her permission

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The Template provides a theme with four basic colors:

#ff751dff

#b22ab6ff

#000000ff

#eeeeeeff

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