

Open-Source Software Practice

1. Introduction

Instructor: Jaemin Jo (조재민, jmjo@skku.edu)
Interactive Data Computing Lab (*IDCLab*),
College of Computing and Informatics,
Sungkyunkwan University

Motivation

- How would you describe yourself?
- If you are a researcher, you will show your CV.



Jaemin Jo

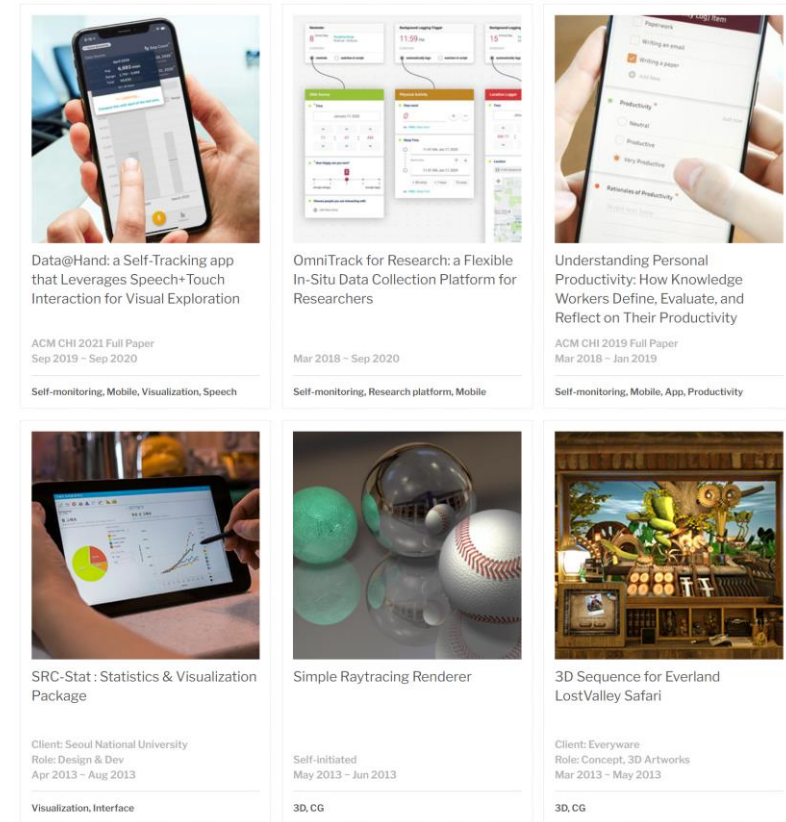
[Sungkyunkwan University](#)
Verified email at skku.edu - [Homepage](#)
[Information Visualization](#) [Human-Computer Interaction](#)



TITLE	CITED BY	YEAR
LiveGantt: Interactively Visualizing a Large Manufacturing Schedule J Jo, J Huh, J Park, B Kim, J Seo Visualization and Computer Graphics, IEEE Transactions on 20 (12), 2329 - 2338	59	2014
TouchPivot: blending WIMP & post-WIMP interfaces for data exploration on tablet devices J Jo, S L'Yi, B Lee, J Seo Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems ...	41	2017
EyeBookmark: Assisting recovery from interruption during reading J Jo, B Kim, J Seo Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing ...	26	2015
A declarative rendering model for multiclass density maps J Jo, F Vernier, P Dragicevic, JD Fekete IEEE transactions on visualization and computer graphics 25 (1), 470-480	25	2018
PANENE: A progressive algorithm for indexing and querying approximate k-nearest neighbors J Jo, J Seo, JD Fekete IEEE transactions on visualization and computer graphics	23	2018
WordlePlus: Expanding Wordle's Use through Natural Interaction and Animation J Jo, B Lee, J Seo IEEE computer graphics and applications 20(2)	23	2015

Motivation

- How would you describe yourself?
- If you are a researcher, you will show your CV.
- If you are a designer, you will show your portfolio.



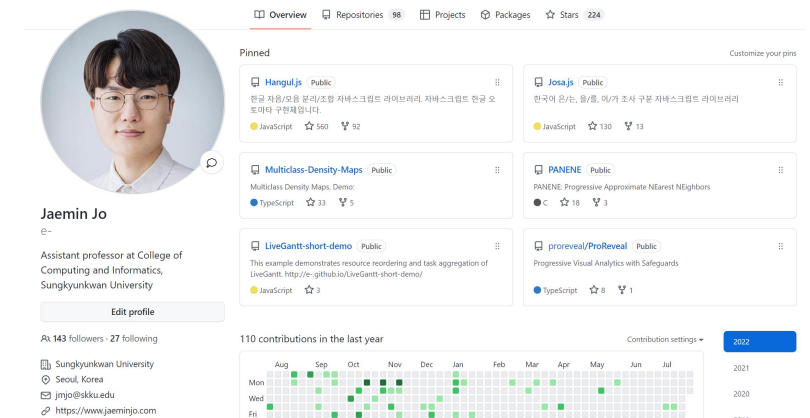
<http://youngbokim.net/>

Motivation

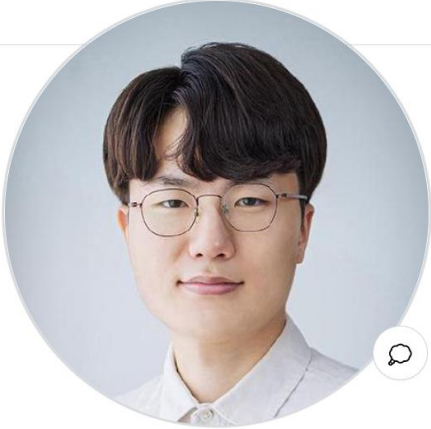
- How would you describe yourself?
- If you are a researcher, you will show your CV.
- If you are a designer, you will show your portfolio.
- What if you are a software engineer?

Motivation

- Your profile page on *GitHub* is one of the most powerful development qualification that can “prove” you as a software engineer.
 - Open-source contributions
 - Repositories (projects that you worked on)
 - Commits (codes that you wrote)
 - Issues (bug reports, improvements, ...)
 - Documents (wiki, ...)
- If you have a strong GitHub profile, you will get a **BIG** plus when you get a job as a software engineer!



Me on GitHub



Jaemin Jo
e-

Assistant professor at College of Computing and Informatics, Sungkyunkwan University

[Edit profile](#)

143 followers · 27 following

Sungkyunkwan University
Seoul, Korea
jmjo@skku.edu
<https://www.jaeminjo.com>

[Overview](#) [Repositories 98](#) [Projects](#) [Packages](#) [Stars 224](#)

Pinned [Customize your pins](#)

[Hangul.js](#) Public

한글 자음/모음 분리/조합 자바스크립트 라이브러리. 자바스크립트 한글 오토마타 구현체입니다.

JavaScript 560 92

[Josa.js](#) Public

한국어 은/는, 을/를, 이/가 조사 구분 자바스크립트 라이브러리

JavaScript 130 13

[Multiclass-Density-Maps](#) Public

Multiclass Density Maps, Demo:

TypeScript 33 5

[PANENE](#) Public

PANENE: Progressive Approximate NEarest NEighbors

C 18 3

[LiveGantt-short-demo](#) Public

This example demonstrates resource reordering and task aggregation of LiveGantt. <http://e-.github.io/LiveGantt-short-demo/>

JavaScript 3

[proreveal/ProReveal](#) Public

Progressive Visual Analytics with Safeguards

TypeScript 8 1

110 contributions in the last year

Contribution settings ▾

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Mon												
Wed												
Fri												

2022

2021

2020

2019

What is Open Source?

- The term “open source” is used to describe software whose source codes are publicly available.
- So, you can read the source codes of open-source software!
- However, it doesn't mean that you are allowed to modify the codes.
 - And redistribute them...
 - “License”

What is a Repository?

- A **source-code repository** is a file archive and web hosting facility for source code of software.
- It usually provides other convenient features such as documentation, demo pages, and links to downloadable binaries.
- Many services are supporting repositories for open-source projects!
 - Github (acquired by Microsoft), GitLab, Bitbucket, CloudForge, SourceForge, ...

What is GitHub?

- GitHub is the largest hosting service for source-code repositories in the world.
 - Basically, for public (or open-source) repositories
 - They will charge you if you want to create a private repository.
- “Git” in GitHub is the name of a distributed version control system, which we will learn later.



What is GitHub?

Let's look back at the code and communities built on GitHub this year...

Based on the data collection range of October 2019 - September 2020.

56 M+
total developers on
GitHub

72 %
of Fortune 50 companies
use GitHub Enterprise

60 M+
new repositories created
in the last year

1.9 B+
contributions added
in the last year

Let's look back at the code and communities built on GitHub this year...

73 M+
Total developers
on GitHub

16 M+
New users
in 2021

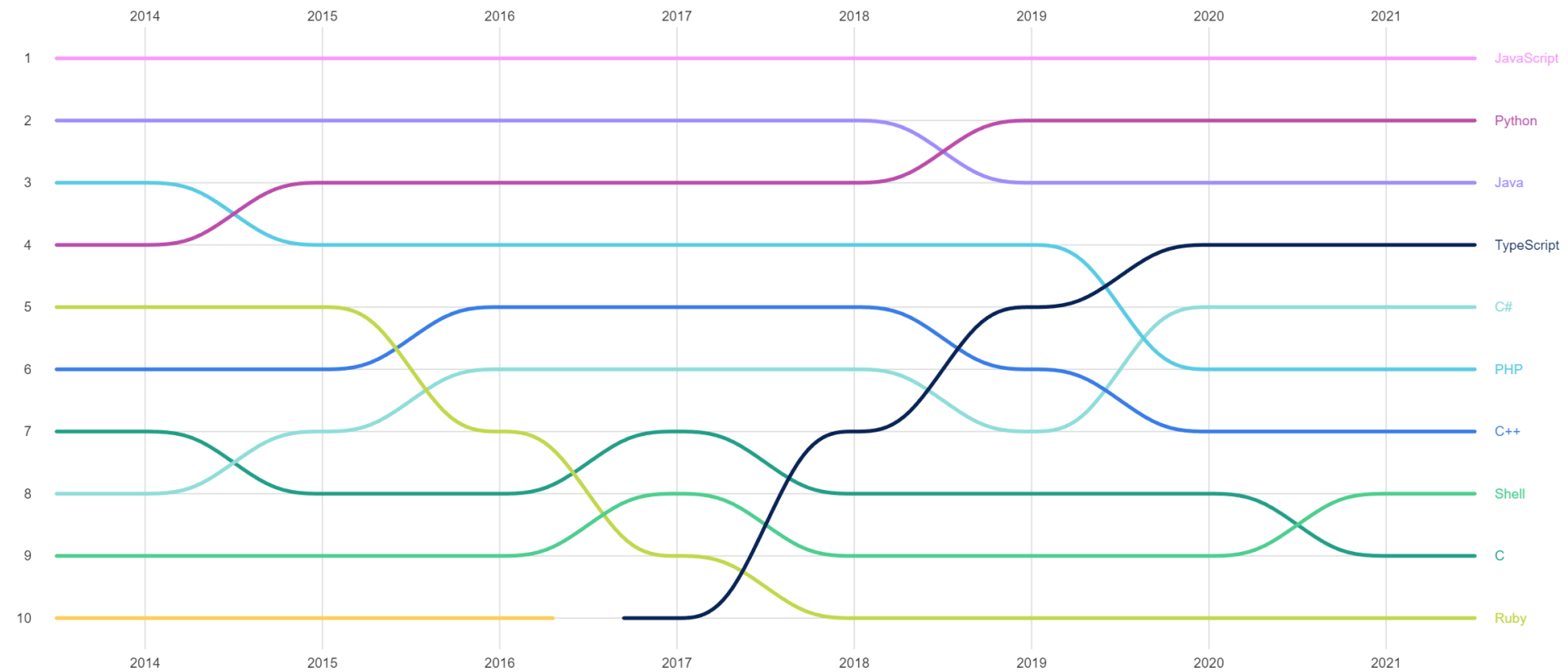
84 %
of Fortune 100 companies
use GitHub Enterprise

61 M+
New repositories
created in the last year

170 M
Pull requests
merged

What is GitHub?

Top languages over the years



Why GitHub?

- In addition to the hosting service, GitHub also provides features for social networking.
 - “Facebook of software engineers”
 - Profile pages
 - Star (like Like in Facebook)
 - Following / Followers (like Twitter)
 - Trending repositories (like Instagram)
 - Timeline, messaging, etc.
- Find “influencers” in coding and how they work.
 - Linus Torvalds (inventor of Linux), Dan Abramov (React/Redux), and more.

What Projects are Hosted on GitHub?

- You can also view the source codes of very popular projects such as:
- JavaScript Interpreter (<https://github.com/nodejs/node>)
- Python Interpreter (<https://github.com/python/cpython>)
- Chromium (i.e., free Chrome, <https://github.com/chromium/chromium>)
- VSCode (<https://github.com/microsoft/vscode>)
- Linux kernel (<https://github.com/torvalds/linux>)
- Git (<https://github.com/git/git>)

Count Me In!

- Unfortunately, you are not ready for now.
- There are things to know before you get into the world of open source.
- After taking this course, you will
 1. be able to explain what Git is and how to use it for version control,
 2. be able to collaborate with other software engineers “in an open-source culture”,
 3. level up your productivity with efficient tools,
 4. and *most importantly* have your own GitHub profile with at least three reusable, maintained, and documented repositories.

Course Information

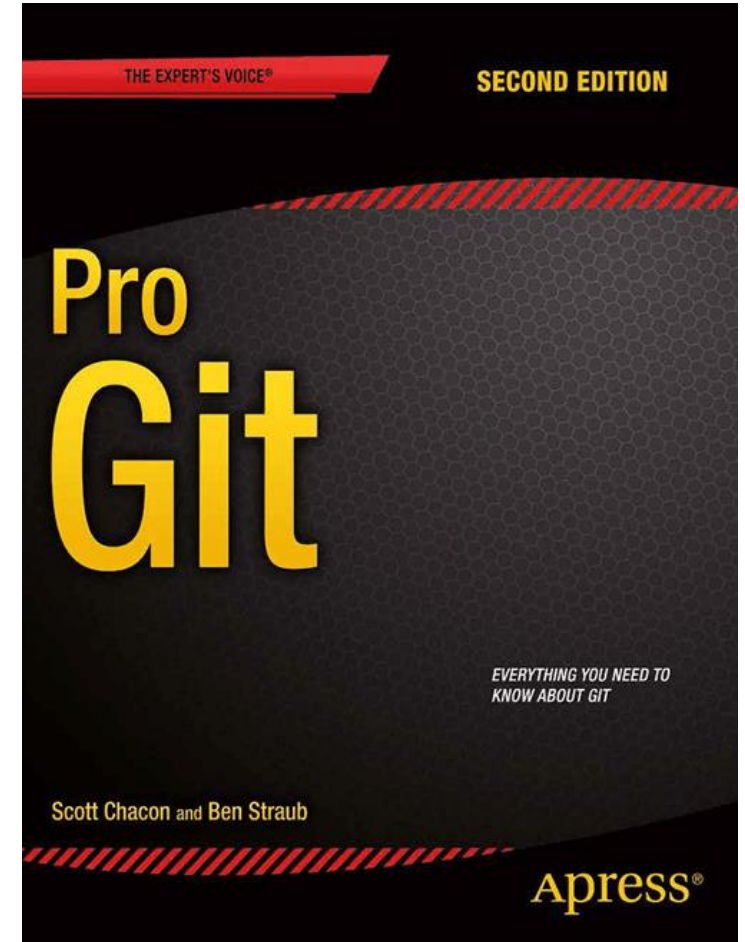
- Open-Source Software Practice (오픈소스SW실습), 2 credits
- Time: Tuesday, 18:00 ~ 22:00
- Location: 85718
- **Lecture:** pre-recorded videos (iCampus, every Friday)
- **Lab:** Offline (**bring your laptop!**)
- You must watch the lecture video **before the end of the week.**
- This year, the lecture will be given in Korean!

Course Information

- Instructor: Jaemin Jo (조재민), Ph.D.
 - Assistant Professor @ College of Computing and Informatics
 - Interactive Data Computing Laboratory
 - Email: jmjo@skku.edu
 - <https://idclab.skku.edu/>
- Research Interests: Human-Computer Interaction, Information Visualization
- Or simply e- on GitHub
 - <https://github.com/e->

Textbook

- Pro Git (<https://git-scm.com/book/en/v2>)
 - It is available online (for free)!
 - There is a Korean translation.
 - <https://git-scm.com/book/ko/v2>
- For other stuff, we will use lecture slides as main course materials.
 - I couldn't find any textbook that covers all the stuff that I'd like to touch in this course.
 - I will compile relevant tutorials and documents from the Web.



Schedule

- Schedule is subject to change.

Week	Topic	Week	Topic
1	Introduction + GitHub Tour	9	Web Application
2	Git Basics	10	Desktop Application
3	Git Advanced	11	Collaboration
4	Git Misc. + Code Editor	12	Client and Server Arch.
5	Node and JavaScript	13	Final Exam
6	JavaScript Advanced	14	Project Presentation
7	Testing and Publishing	15	Project Presentation
8	HTML & CSS		

Assignments

- 3 medium-sized coding assignments (individual)
 - Developing a command-line tool
 - Developing your profile website
 - Developing a Windows or Mac app
- 1 big project (3 persons per team, randomly assigned)

Grading Policy

- HTML Tutorial: **5%**
- JS Tutorial: **10%**
- Assignments: **10% * 3 = 30%**
- Project: **30%**
- Final: **25%**
- Attendance:
 - ≤ 2 absences: no deduction
 - Your grade will be lowered by one (A0 \rightarrow B+) at 3, 5, 7, ... absences.
- No grace period for delay (you will get 0 points)

Environment

- Almost all examples in the course materials are cross-platform.
 - Windows, MacOS, and Linux
- However, I tested most examples on Windows 10.
- It is okay to use MacOS or Linux if you want.
 - But, you should take care of cross-platform issues.

Plagiarism (Code Copying)

- No mercy for plagiarism and cheating.
 - You will get an F (성균관대학교학칙 학사과정 제25조, 성균관대학교학칙 대학원과정 제31조)
- Do not ever copy-and-paste-and-revise others' code.
 - Both cheater and code-giver (a person who shares his/her codes with the cheater) will get a penalty.
- **Exception:** Copying code snippets (small pieces of code) is allowed only if the source is given.
 - // from <https://stackoverflow.com/~/~/~/~/~>

Why should I Take this Course?

1. We will touch many important topics and examples in software development, and this will be a really good practice especially for novice engineers.
 - So, if you are a junior or senior, you may feel “lack of depth”.
2. You will learn a versatile programming language, JavaScript, and this is one of the few classes where you can learn a language.
3. You will meet awesome teammates.

Do I Really Need to Learn Web?

- **Short answer:** No. Not every SW engineer needs to learn Web technologies.
- But, it provides several advantages for learners:
 - The Web development is one of the easiest ways to develop GUI. Having “visible” outcomes will better motivate you.
 - It involves many languages/libraries/tools. You will learn the difference between them.
 - Low barrier to entry. Just bring Visual Studio Code and Chrome.

Do I Really Need to Learn Web?

- After taking this course, some of you may feel Web (or front-end engineering) is not your way to go, but it is also a good sign for determining your career path.

Feedback from Your Peers

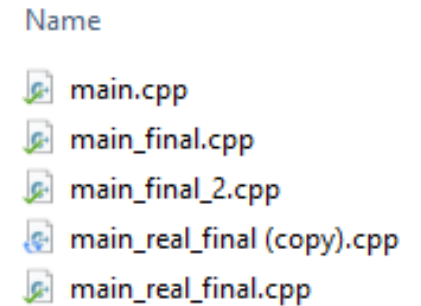
- *“A lot of assignments. Isn’t this a 2-credit course?”*
- *“Pros: you learn a lot of things. Cons: you learn a lot of things”*
- *“Very informative and useful”*
- *“Generous in grading”*

Why Version Control?

- You can't write all the source code of a program at once.
 - You will incrementally update the code.
- **Version Control:** record changes to a file or a set of files over time.
 - Compare changes over time
 - See when and who modified a specific file
 - Revert some files back to a previous state
- How would you maintain multiple versions?

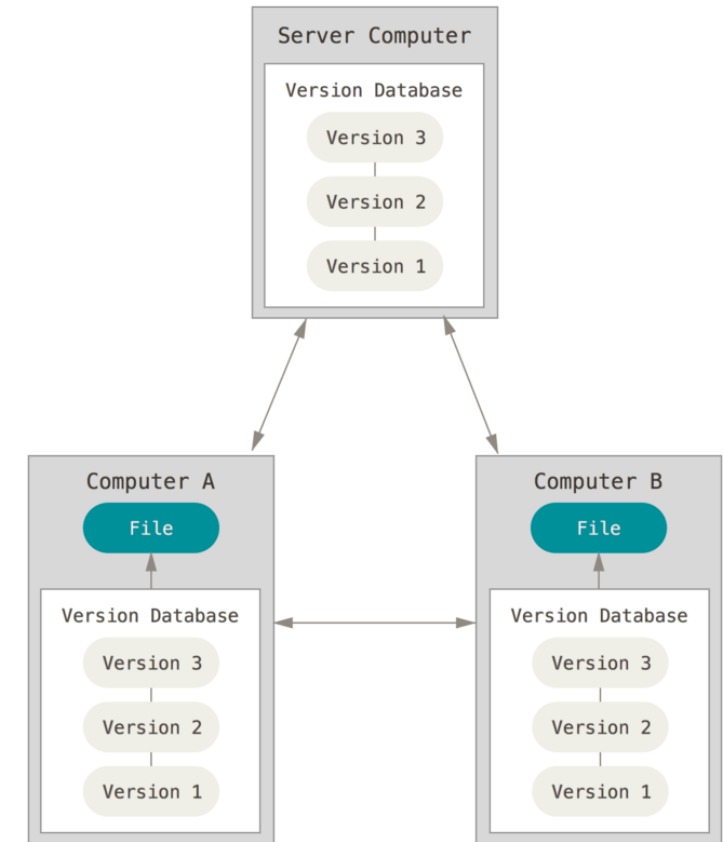
Simplest Way: Copy and Rename


- Many people's version-control method of choice is to copy files into another directory.
- It is so simple but error prone.
- If you are a “smart” engineer, you should automate this.
- **Version Control System (VCS):** systems that manage changes to computer programs, documents, large web sites, or other collections of information
 - a specialized database



What is Git and GitHub?

- Git is one of the most popular VCSs in the world.
- **Distributed** (no single point of failure, SPOF)
- GitHub: a web hosting service that provides Git
 - <https://github.com/>
 - Sign up and upgrade your account to a pro account (free for students).
 - https://education.github.com/discount_requests/student_application




e-

[New](#)

[e-/ProOpt](#)
[e-/kepc](#)
[vis-skku/vis-skku.github.io](#)
[e-/paper-clipper](#)
[vis-skku/ps-final](#)
[sveltejs/svelte](#)
[e-/Josa.js](#)

[Show more](#)

[Your teams](#)

starred 2 repositories 3 hours ago

hexojs/hexo

A fast, simple & powerful blog framework, powered by Node.js.

JavaScript

32k

7 issues need help

Updated Jan 18

Star

from semantic-release/npm 17 hours ago

semantic-release/npm

semantic-release plugin to publish a npm package

JavaScript

91

Updated Jan 18

Star

samuelcolvin/pydantic

yesterday

samuelcolvin/pydantic

Data parsing and validation using Python type hints

Python

5.1k

29 issues need help

Updated Jan 18

Star

starred crystalidea/mac-fan-control 2 days ago

crystalidea/mac-fan-control

Control fans on Apple computers

345

9 issues need help

Updated Jan 17

Star

starred jupyterlab/rtc 2 days ago

jupyterlab/rtc

Real Time Collaboration for Jupyter and beyond

TypeScript

139

Updated Jan 18

Star

Explore repositories

Knowledge-Precipitation-Tribe/Spatio-Temporal-papers

This project is a collection of recent research in areas such as new infrastructure and urban computing, including white papers, academic papers, AI lab and dataset etc.

Jupyter Notebook

65

Rich-Harris/degit

Straightforward project scaffolding

JavaScript

2.5k


sveltejs/template

Template for building basic applications with Svelte

JavaScript

956




[Explore more](#)



Search or jump to... /


Pull requests


IssuesMarketplaceExplore






















CreatedAssignedMentionedReview requests

is:pr archived:false author:e- is:closed

 0 Open

 27 Closed

Visibility Organization Sort


		
		
		
		 2
		 3
		
		
		 1
		 4
		
		 3
		
		 1

CreatedAssignedMentioned


is:issue archived:false author:e- is:closed


3 Open ✓ 19 Closed


VisibilityOrganizationSort


 sveltejs/svelte bind:clientWidth and bind:clientHeight do not work if the element is set to "display:block" 2


#5792 by e- was closed on 16 Dec 2020





 1


 3





 3










 lmcinnes/umap Derivatives of the curve function 3

#72 by e- was closed on 31 May 2018

 e-/Multiclass-Density-Maps Data Buffer Improvement

#7 by e- was closed on 3 Apr 2018 0 of 3

Marketplace / Apps / CommitCheck



✓ Verified by GitHub
GitHub confirms that this app meets the [requirements for verification](#).

Categories

Code quality Code review
Free Trials Free Paid

Supported languages

C, C++, Go
and 5 other languages supported

Developer



Developer links

Support
Documentation
Privacy Policy

Report abuse

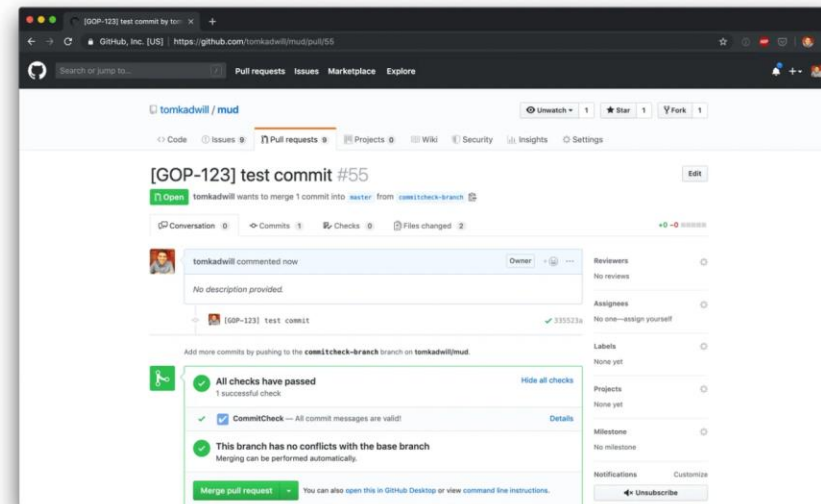
Application

CommitCheck

Set up a free trial

CommitCheck ensures your commit messages are consistent and contain all required information. You can check that commits contain a JIRA number or ensure commits don't contain WIP.

[Read more...](#)



CommitCheck on a PR





Search or jump to...



Pull requests

Issues

Marketplace

Explore



Jaemin Jo

e-

1 starred topic



Node.js

202 starred repositories

Explore

Topics

Trending

Collections

Events

GitHub Sponsors

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Here's what we found based on your interests...

Based on your public repository contributions

sveltejs / rollup-plugin-svelte

Star 341

Code Issues Pull requests

Compile Svelte components with Rollup

Updated 12 hours ago JavaScript

Based on repositories you've starred

flyingpot / pytorch_deephesh

Star 141

Code Issues Pull requests

Pytorch implementation of Deep Learning of Binary Hash Codes for Fast Image Retrieval, CVPRW 2015

deep-learning pytorch hash image-retrieval deephesh

Updated on 8 Mar 2020 Python

Based on topics you've starred

brawley

Star

There are 3 public repositories matching this topic

BotStudios / Brawley

An Awesome Discord Bot That Does Many Things

Trending repositories today

files-community / Files 5.7k

A modern file explorer that pushes the boundaries of the platform.

jagregory / abrash-black-book 3.6k

Markdown source for Michael Abrash's Graphics Programming Black Book

labuladong / 80.3k

刷算法全靠套路，认准 labuladong 就够了！
English version supported! Crack LeetCode, not only how, but also why.

iptv-org / iptv 25.2k

Collection of 5000+ publicly available IPTV channels from all over the world

See more trending repositories >

Trending developers

Miek Gieben miekg
dns

Ben V. Brown Ralim
IronOS

Explore

Topics

Trending

Collections

Events

GitHub Sponsors

Get email updates

Topics

Browse popular topics on GitHub.



COVID-19

The coronavirus disease 2019 (COVID-19) is an infectious disease caused by SARS-CoV-2.



Bootstrap

Bootstrap is an HTML, CSS, and JavaScript framework.



Rust

Rust is a systems programming language created by Mozilla.

All featured topics

#

3D

3D modeling is the process of virtually developing the surface and structure of a 3D object.

 Star

#

Ajax

Ajax is a technique for creating interactive web applications.

 Star

#

Algorithm

Algorithms are self-contained sequences that carry out a variety of tasks.

 Star

Popular topics

react

nodejs

javascript

css

python

java

html

express

jsf

unitins

35

Open-Source Software Practice - 01. Introduction


Get email updates

Trending


See what the GitHub community is most excited about this month.

Repositories Developers

Spoken Language: English Language: Any Date range: This month


 [signalapp / Signal-Android](#)

A private messenger for Android.


Java 18,513 4,345 Built by 

4,424 stars this month

Star


 [signalapp / Signal-Desktop](#)

Signal — Private Messenger for Windows, Mac, and Linux


JavaScript 9,419 1,613 Built by 

2,962 stars this month

Star


 [signalapp / Signal-iOS](#)

A private messenger for iOS.


Swift 7,206 1,819 Built by 

1,885 stars this month

Star


 [iptv-org / iptv](#)

Collection of 5000+ publicly available IPTV channels from all over the world


JavaScript 25,185 570 Built by 

3,398 stars this month

Star

 [inancgumus / learn-go](#)

1000+ Hand-Crafted Go Examples, Exercises, and Quizzes

Go 7,793 921 Built by 

1,811 stars this month

Star

ExploreTopicsTrendingCollectionsEventsGitHub Sponsors

Get email updates

Collections

Curated lists and insight into burgeoning industries, topics, and communities.

Create a collection



Learn to Code

Resources to help people learn to code



Pixel Art Tools

Creating pixel art for fun or animated sprites for a game? The digital artist in you will love these apps and tools!



Text editors

The text editor is a sacred tool for developers. Here's a showcase of some amazingly awesome open source editors.

#

How to choose (and contribute to) your first open source project

New to open source? Here's how to find projects that need help and start making impactful contributions.

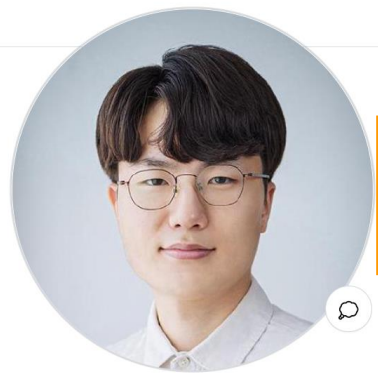
#

Clean code linters

Make sure your code matches your style guide with these essential code linters.

37

Open-Source Software Practice - 01. Introduction



Jaemin Jo
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Assistant professor at College of
Computing and Informatics,
Sungkyunkwan University

Edit profile

143 followers · 27 following

Sungkyunkwan University
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jmjo@skku.edu
<https://www.jaeminjo.com>


Achievements



Overview Repositories 98 Projects Packages Stars 224


Pinned

Customize your pins


Hangul.js Public


한글 자음/모음 분리/조합 자바스크립트 라이브러리. 자바스크립트 한글 오토마타 구현체입니다.

JavaScript 560 92


Josajs Public


한국어 은/는, 을/를, 이/가 조사 구분 자바스크립트 라이브러리

JavaScript 130 13


Multiclass-Density-Maps Public


Multiclass Density Maps, Demo:

TypeScript 33 5


PANENE Public


PANENE: Progressive Approximate NEarest NEighbors

C 18 3


LiveGantt-short-demo Public

This example demonstrates resource reordering and task aggregation of LiveGantt. <http://e-github.io/LiveGantt-short-demo/>

JavaScript 3

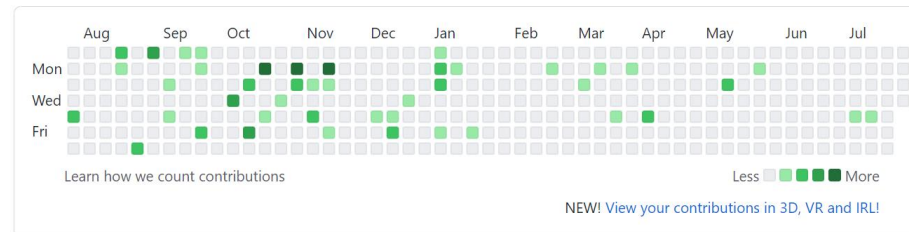

proreveal/ProReveal Public

Progressive Visual Analytics with Safeguards

TypeScript 8 1

110 contributions in the last year

Contribution settings



@skku-idclab @vis-skku

- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016

e- / Hangul.js

Unwatch25

Unstar434

Fork78

<> Code

Issues2

Pull requests4

Actions

Projects

Wiki

Security1

Insights

Settings

master2 branches4 tags

Go to file

Add file

Code

e- Merge pull request #27 from e-/dependabot/npm_and_yarn/lodash-4.17.19 376441b on 13 Aug 2020 107 commits

examples	Update stronger.html	14 months ago
test	Vulnerability updates	14 months ago
.gitignore	integrated with Grunt	6 years ago
.travis.yml	Update .travis.yml	14 months ago
Gruntfile.js	updated QUnit, removed requirejs tests	4 years ago
LICENSE	Update LICENSE	13 months ago
README.md	Merge pull request #23 from lsh23/master	6 months ago
bower.json	added bower description	5 years ago
hangul.d.ts	Update overloading arguments type declaration	3 years ago
hangul.js	[UPDATE] 파일 주석 수정	14 months ago
hangul.min.js	Vulnerability updates	14 months ago
package-lock.json	Bump lodash from 4.17.15 to 4.17.19	6 months ago
package.json	Vulnerability updates	14 months ago

README.md

build passing

Hangul.js

Hangul.js는 한글로 이루어진 문장의 자음과 모음을 분리하는 자바스크립트 라이브러리입니다. 자모 분리 또는 초성 검색에 사용할 수 있습니다.

About

한글 자음/모음 분리/조합 자바스크립트 라이브러리. 자바스크립트 한글 오토마타 구현체입니다.

e-.github.io/hangul.js/examples/

javascripthangul

Readme

MIT License

Releases4

v0.2.5 Latest on 26 Jul 2018

+ 3 releases

Packages


No packages published

Publish your first package

Used by263

+ 255

Contributors11



[Pull requests](#)
[Issues](#)
[Marketplace](#)
[Explore](#)

[e- / Hangul.js](#)
Unwatch

[Code](#)
[Issues 2](#)
[Pull requests 4](#)
[Actions](#)
[Projects](#)
[Wiki](#)
[Security 1](#)
[Insights](#)
[Settings](#)

Filters

Labels 7
 Milestones 0
 [New issue](#)

☐

2 Open

8 Closed

Author
 Label
 Projects
 Milestones
 Assignee
 Sort

☐

Level of decomposition

#11 opened on 23 Oct 2017 by e-

1


☐

Missing Complex Vowels

#8 opened on 28 Jan 2017 by roe-ese

3

ProTip! Find everything you created by searching `author:e-`.

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[Privacy](#)
[Security](#)
[Status](#)
[Help](#)

[Contact GitHub](#)
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[API](#)
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[Blog](#)
[About](#)

7 labels

bug

dependencies

duplicate

enhancement

invalid

question

wontfix

Fork

78

Filters
Labels 7
Milestones 0
[New pull request](#)

<input type="checkbox"/>	4 Open ✓ 13 Closed	Author ▾	Label ▾	Projects ▾	Milestones ▾	Reviews ▾	Assignee ▾	Sort ▾
<input type="checkbox"/>	한글 난독화 기능 #26 opened on 11 Jul 2020 by joonas-yoon <input type="text" value="5 of 5"/>							
<input type="checkbox"/>	새 메서드들: concat, includes ✓ #25 opened on 27 Jan 2020 by atomDevelop							
<input type="checkbox"/>	초성 검색 여부 적용, 한글판단 함수에 ALL/One or more 옵션 적용 ✕ #10 opened on 10 Jun 2017 by g1s							
<input type="checkbox"/>	쌍자음이 초성에 분절로 들어왔을 때의 처리 ✓ #5 opened on 7 Jul 2016 by hohoonlee							2

💡 ProTip! Follow long discussions with [comments:>50](#).

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Get started with GitHub Actions

Build, test, and deploy your code. Make code reviews, branch management, and issue triaging work the way you want. Select a workflow template to get started.

Skip this and [set up a workflow yourself](#) →

Workflows made for your JavaScript repository Suggested


Publish Node.js Package


By GitHub Actions


Publishes a Node.js package to npm and GitHub Packages.

Set up this workflow

```
npm ci
npm test
npm ci
```

 actions/starter-workflows

JavaScript 




Node.js


By GitHub Actions


Build and test a Node.js project with npm.

Set up this workflow

```
npm ci
npm run build --if-present
npm test
```

 actions/starter-workflows

JavaScript 




Deno


By GitHub Actions


Test your Deno project

Set up this workflow

```
deno cache deps.ts
deno test -A --unstable
```

 actions/starter-workflows

JavaScript 



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Open-Source Software Practice - 01. Introduction

Roadmap

Updated on 4 Sep 2020

Filter cards

Fullscreen Menu

4 In Discussion

Dynamic Elements

Issues: [#2324](#)

PR Proposal: [#3928 \(comment\)](#)

Added by antony

2 References

A11y (aka Accessibility)

[#820](#)

[#4119](#)

Added by antony

2 References

Component Testing Strategy

Added by antony

Router

Added by antony

0 In Progress

1 In Review

HMR

[#3632](#)

[sveltejs/svelte-loader#107](#)

Hooks have been implemented in core.

Some example hmr enabled templates at <https://github.com/rixo/svelte-hmr> please raise / help track down issues.

Added by antony

2 References


1 Released

Typescript Support

[#4518](#)



Added by antony

1 Reference



[TypeScript Roadmap via LSP](#)




[#4518](#) opened by orta in sveltejs/svelte









feature: typescript meta

 Search or jump to... 

Pull requests Issues Marketplace Explore

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<> Code  Issues 2  Pull requests 4  Actions  Projects 1  **Wiki**  Security 1  Insights  Settings



Welcome to the Hangul.js wiki!

Wikis provide a place in your repository to lay out the roadmap of your project, show the current status, and document software better, together.

Create the first page

- Overview
- Security policy
- Security advisories 0
- Dependabot alerts 1
- Code scanning alerts

Security overview

Security policy
Define how users should report security vulnerabilities for this repository

[Set up a security policy](#)

Security advisories
View or disclose security advisories for this repository

[View security advisories](#)

Dependabot alerts — Active
Get notified when one of your dependencies has a vulnerability

[View Dependabot alerts](#)

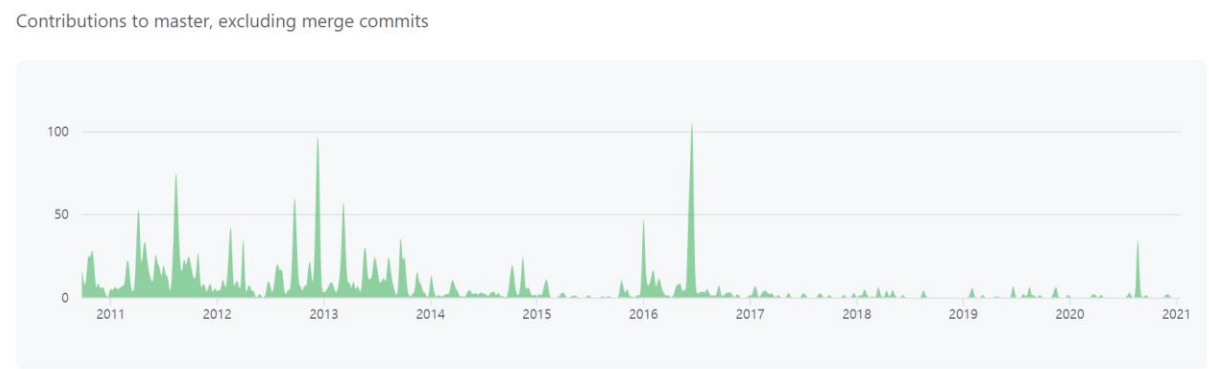
Code scanning alerts
Automatically detect common vulnerability and coding errors

[Set up code scanning](#)

- Pulse
- Contributors
- Community
- Commits
- Code frequency
- Dependency graph
- Network
- Forks

Sep 26, 2010 – Jan 16, 2021

Contributions: Commits



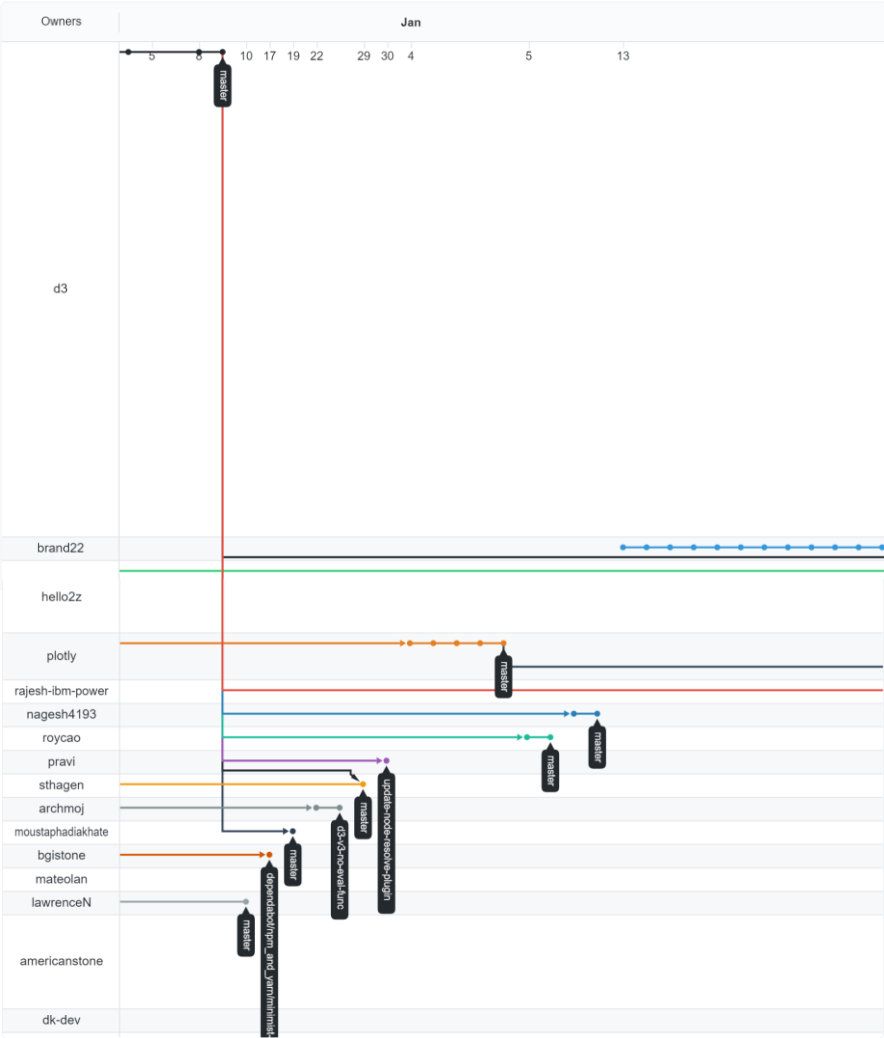
- Pulse
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- Forks



Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

The repository network shows the 100 most recently pushed forks. Do you need to see more forks? Please [give us feedback](#) on your usage of this feature.



Summary

- **Repository:** records of changes happened to source codes
 - Why? Reverting the version, comparison, find who to blame...
- **Open-source software** is software whose source codes are publicly available under a specific license (use, study, change, redistribute).
- **Git:** a popular *decentralized* version control system (VCS)
- **GitHub:** a web service that hosts Git + many social networking features