

# 풀 리퀘스트 기초

Git & Github  
for pull request

강환수 교수

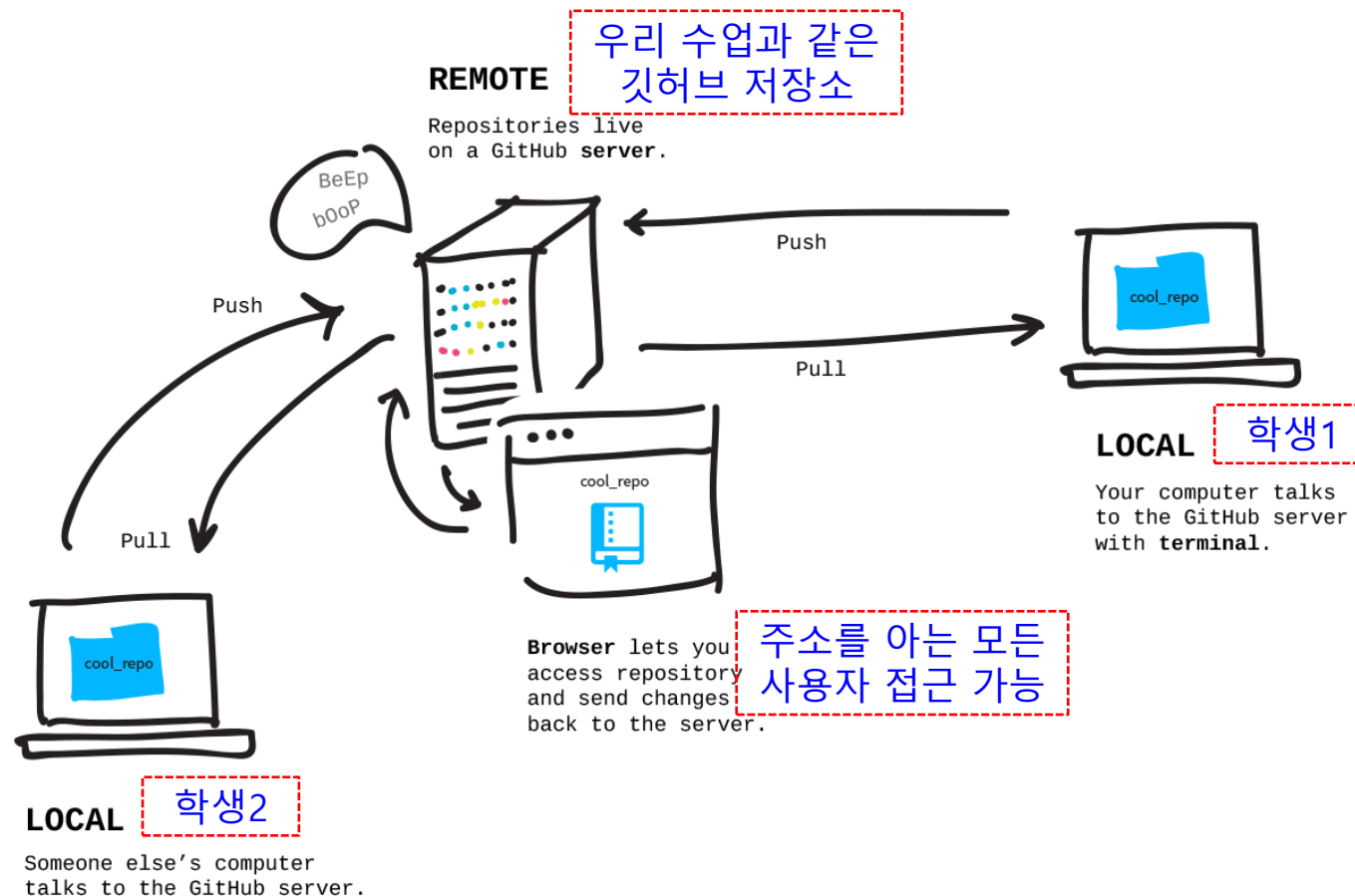
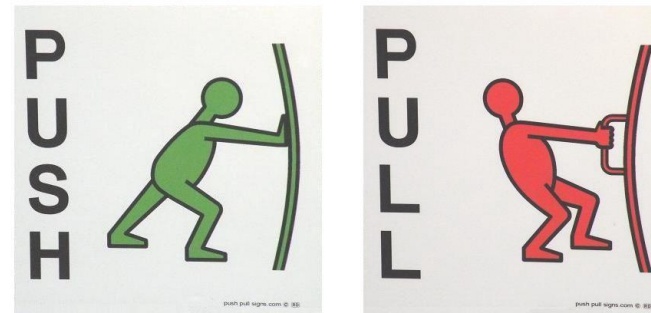


AI Experts  
Who Lead  
The Future

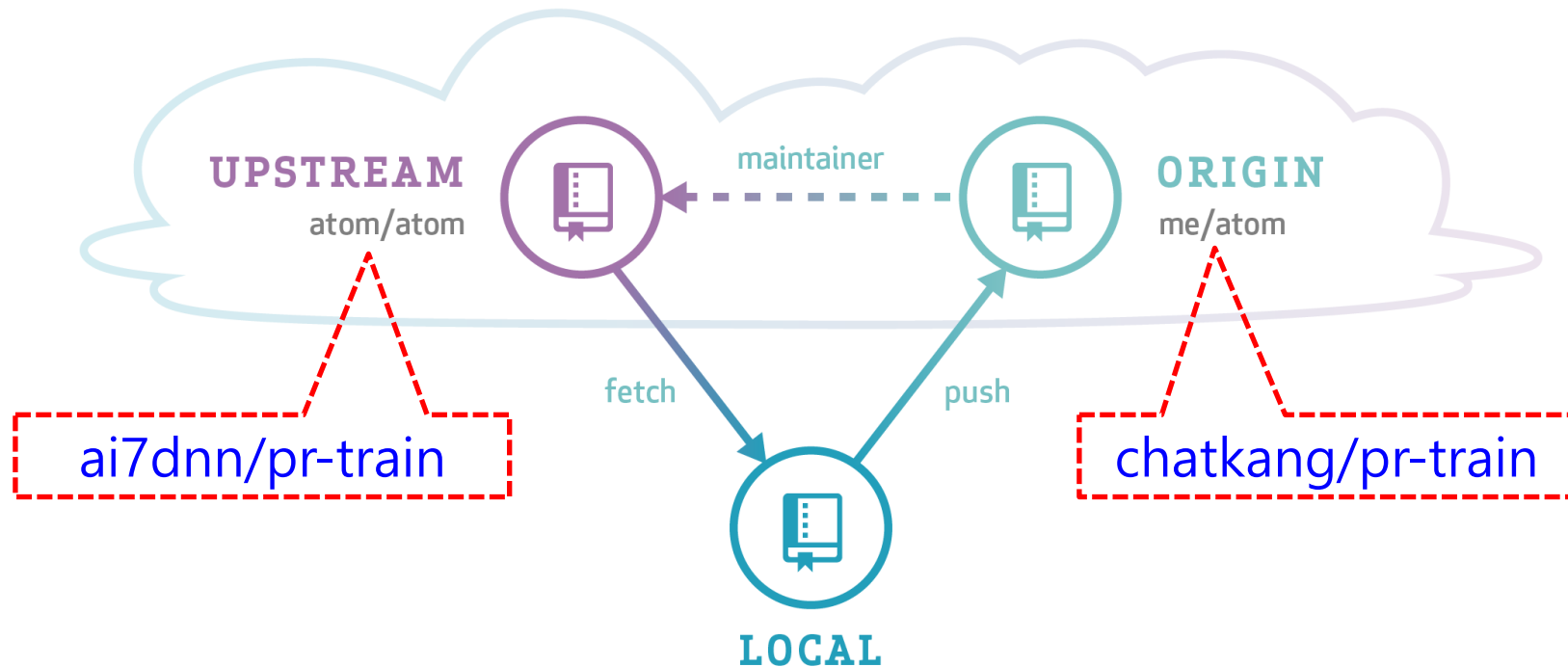
# 01

## Pull과 Push, Pull Request 이해

- 지역 저장소(local repo) 관점에서
  - Push
    - 원격 저장소(remote)로 올리기
  - Pull
    - 지역 저장소(local)로 내리기



- 원격 서버(remote)가 2개
  - Upstream
    - 오픈소스(프로젝트) 또는 타인의 저장소
  - Origin
    - Upstream을 내 계정으로 Fork한 자신의 저장소

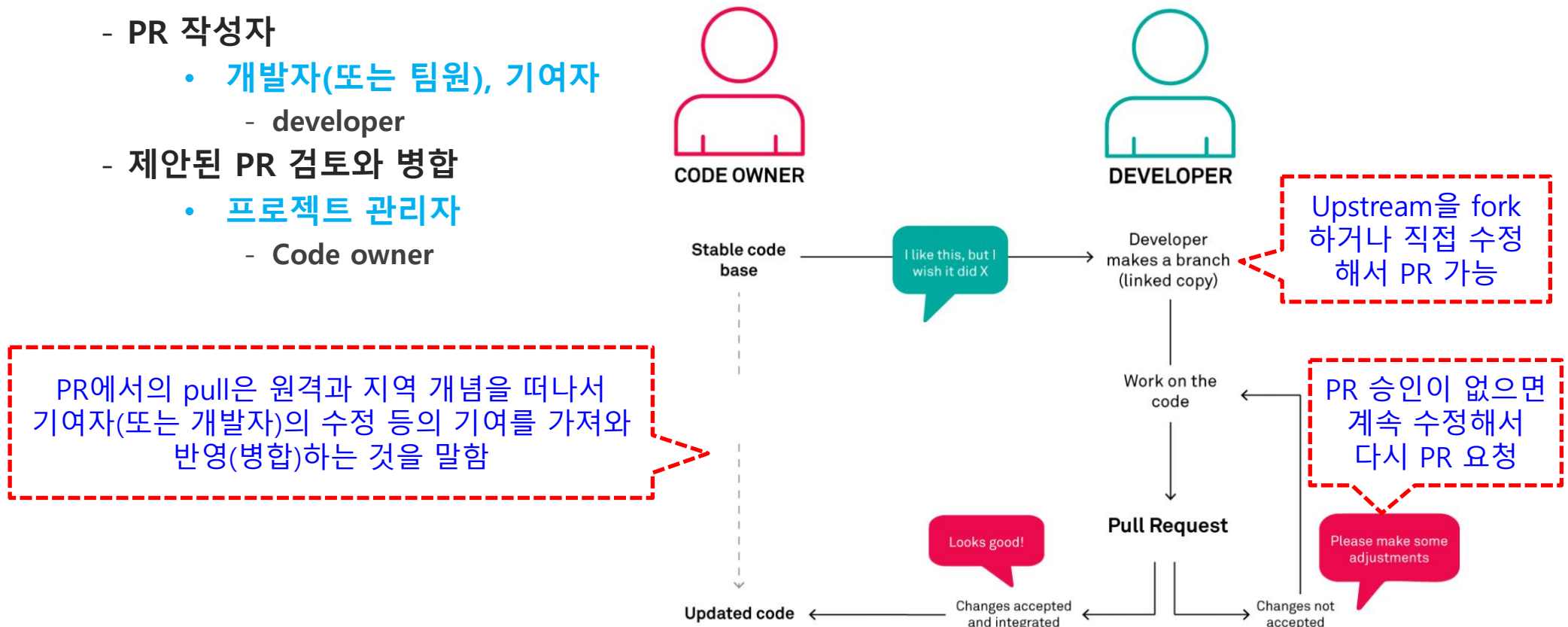


- 프로젝트 팀원, 또는 다른 프로젝트의 기여자로서의 기여(contribution)의 종류
  - 저장소(오픈 소스)에 도움이 될 만한 모든 활동
    - 기능 제안 및 추가
    - 기존 소스의 버그를 수정
    - 여러 다양한 방법의 기여
- 향후 여러분들의 오픈 프로젝트에 대한 기여 방안 사례
  - 초기, 특정 오픈 소스에 대해 공부하기 시작했을 경우
    - 오픈 소스에서 영문으로 작성된 README 파일의 한국어 번역에 기여
  - 해당 오픈 소스 프로젝트를 어느 정도 이해하고 있는 경우
    - 문서화 작업에 기여
      - 소스나 문서의 오타 수정
      - 잘못 번역된 한글 수정
  - 오픈 소스를 알고 있는 경우
    - 기능과 버그 수정에 기여
      - 소스 코드 수정에 기여
      - 오픈 소스의 버그를 찾고 수정
      - 추가 기능 제안과 코드 제안 및 추가

# Pull Request란?

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

- Pull request, 간단히 PR, 우리 말로는 “수정 요청”, “끌기 요청”
  - 수정 권한이 없는 타인의 오픈소스(저장소)에 저장소 수정 등의 기여 요청을 하는 알림
    - 프로젝트 수행 시 개발자로서 코드 수정을 알림
  - 저장소 소유자(또는 관리자) 관점에서, 소유자에게 “수정 내용의 pull 요청”하는 작업
    - 기여자의 수정 내용을 가져와(pull) 소유자의 저장소에 병합(merge)하는 작업을 요청
  - PR 작성자
    - 개발자(또는 팀원), 기여자
      - developer
  - 제안된 PR 검토와 병합
    - 프로젝트 관리자
      - Code owner



# PR(pull request) 처리 과정

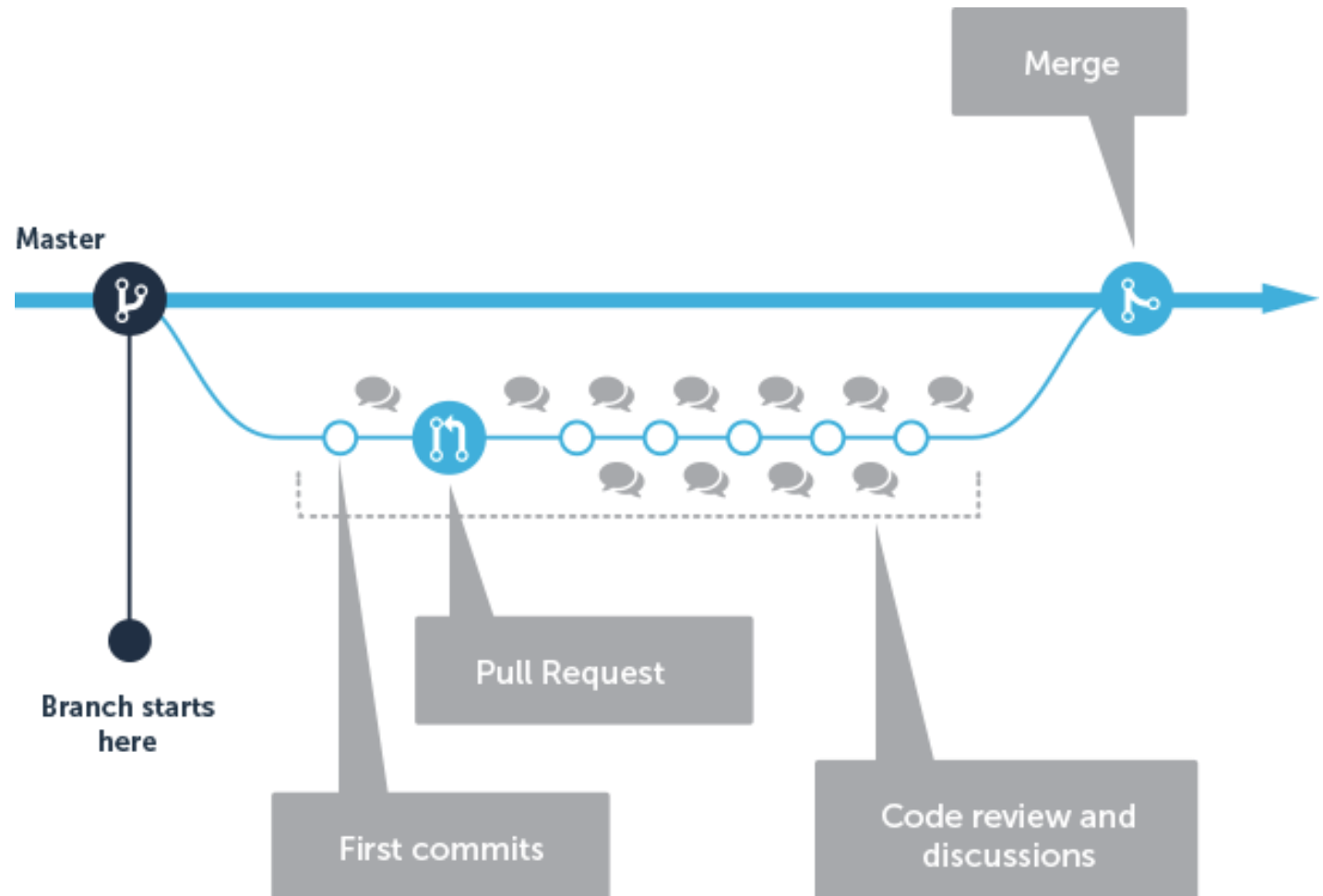
오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

- 기여자 관점

- Fork(New Branch)
- Discussion, develop
- Commit
- Pull request
- Sync

- 관리자 관점

- Request review
- discussion
- Accept PR
- Merge



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The Future

## 02

### 깃허브의 PR(pull request) 실습

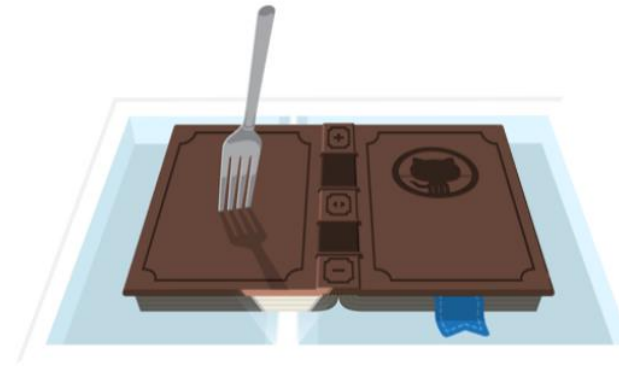


# GUI 깃허브로만 pull request 실습

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

- 두 개의 id로 실습

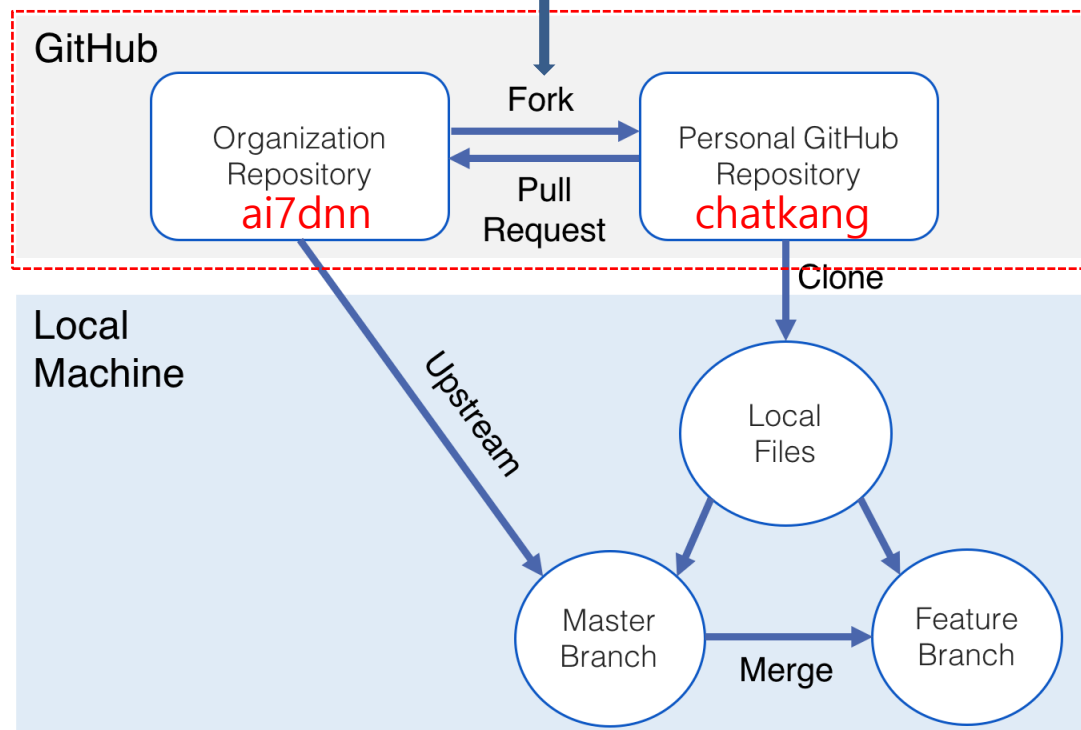
- 기여자 chatkang
  - 기여자: Fork
  - 기여자: 파일 수정
  - 기여자: Pull request
- 관리자 ai7dnn
  - 관리자: review 또는 merge



- Github에서만 Pull Request

- Upstream
  - 팀장, 관리자
    - 계정 ai7dnn
- Remote
  - 팀원, 기여자
    - 계정 chatkang

보시는 화면처럼 짝 중에 한명은 팀장(ai7dnn), 다른 한명은 팀원(chatkang)으로 실습



# 팀장, Upstream: 연습할 저장소 생성

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

ai7dnn

## Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?  
[Import a repository.](#)

Required fields are marked with an asterisk (\*).

### Repository template

No template ▾

Start your repository with a template repository's contents.

Owner \*



ai7dnn ▾

Repository name \*

PR-train

✓ PR-train is available.

Great repository names are short and memorable. Need inspiration? How about [friendly-octo-adventure](#) ?

Description (optional)

PR 연습 저장소



Public

Anyone on the internet can see this repository. You choose who can commit.



Private

You choose who can see and commit to this repository.

Initialize this repository with:

☒ Add a README file

This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore

.gitignore template: Python ▾

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

Choose a license

License: MIT License ▾

# 팀원, Remote: 저장소 fork

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

chatkang

The screenshot shows a web browser window with two tabs. The active tab is titled 'ai7dnn/PR-train: PR 연습 저장소'. The address bar shows 'github.com/ai7dnn/PR-train'. The repository page for 'ai7dnn / PR-train' is displayed. The repository is public and has 1 watch, 0 forks, and 0 stars. The 'Fork' button is highlighted with a red dashed box. Below the repository name, there are buttons for 'main', '1 branch', and '0 tags'. A table lists the files in the repository: '.gitignore', 'LICENSE', and 'README.md', all with 'Initial commit' status. The 'README.md' file is expanded, showing the title 'PR-train' and the subtitle 'PR 연습 저장소'. On the right side, the 'About' section lists the repository's details: 'PR 연습 저장소', 'Readme', 'MIT license', 'Activity', '0 stars', '1 watching', '0 forks', and 'Report repository'. The 'Releases' section shows 'No releases published'. The 'Packages' section shows 'No packages published'.

chatkang x ai7dnn/PR-train: PR 연습 저장소 x +

github.com/ai7dnn/PR-train

ai7dnn / PR-train

Type to search

< Code Issues Pull requests Actions Projects Security Insights

PR-train Public

Watch 1 Fork 0 Star 0

main 1 branch 0 tags

Go to file Add file <> Code

ai7dnn Initial commit dbd44e1 now 1 commit

File	Commit	Time
.gitignore	Initial commit	now
LICENSE	Initial commit	now
README.md	Initial commit	now

README.md

## PR-train

PR 연습 저장소

About

PR 연습 저장소

- Readme
- MIT license
- Activity
- 0 stars
- 1 watching
- 0 forks
- Report repository

Releases

No releases published

Packages

No packages published


chatkang

## Create a new fork

A *fork* is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project.

Required fields are marked with an asterisk (\*).

Owner \*

 chatkang ▾

Repository name \*

PR-train

✓ PR-train is available.


By default, forks are named the same as their upstream repository. You can customize the name to distinguish it further.

Description (optional)

PR 연습 저장소

☒ Copy the **main** branch only

Contribute back to ai7dnn/PR-train by adding your own branch. [Learn more.](#)

 You are creating a fork in your personal account.

Create fork

# 팀장, Upstream: 이슈 생성

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

ai7dnn

5장 데이터 시각화 x 키보드 특수 문자 x 246292777-43cd7 x Colaboratory에 오 x matplotlib-한글치 x New Issue - ai7dnn x

github.com/ai7dnn/PR-train/issues/new

ai7dnn / PR-train

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

코드를 작성하세요!

Write Preview

코드 작성

Attach files by dragging & dropping, selecting or pasting them.

Styling with Markdown is supported

Submit new issue

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

Assignees  
No one—assign yourself

Labels  
None yet

Projects  
None yet

Milestone  
No milestone

Development  
Shows branches and pull requests linked to this issue.

Helpful resources  
[GitHub Community Guidelines](#)

팀장의 저장소(ai7dnn/PR-train)에서는 이슈가 보이며  
누구나 이슈 생성 가능하나, Forked된 저장소  
(chatkang/PR-train)에서는 이슈 자체가 안 보인

# 팀원, Remote: Upstream의 저장소에서 이슈 확인

이전 소스: 소프트웨어를 위한 깃과 깃허브 Python language

chatkang

- <https://github.com/ai7dnn/PR-train/> 에서 이슈 확인

chatkang

github.com/ai7dnn/PR-train/issues

ai7dnn / PR-train

Type to search

Code Issues 1 Pull requests Actions Projects Security Insights

Want to contribute to ai7dnn/PR-train? Dismiss

If you have a bug or an idea, browse the open issues before opening a new one. You can also take a look at the [Open Source Guide](#).

Filters is:issue is:open Labels 9 Milestones 0 New issue

1 Open 0 Closed

Author Label Projects Milestones Assignee Sort

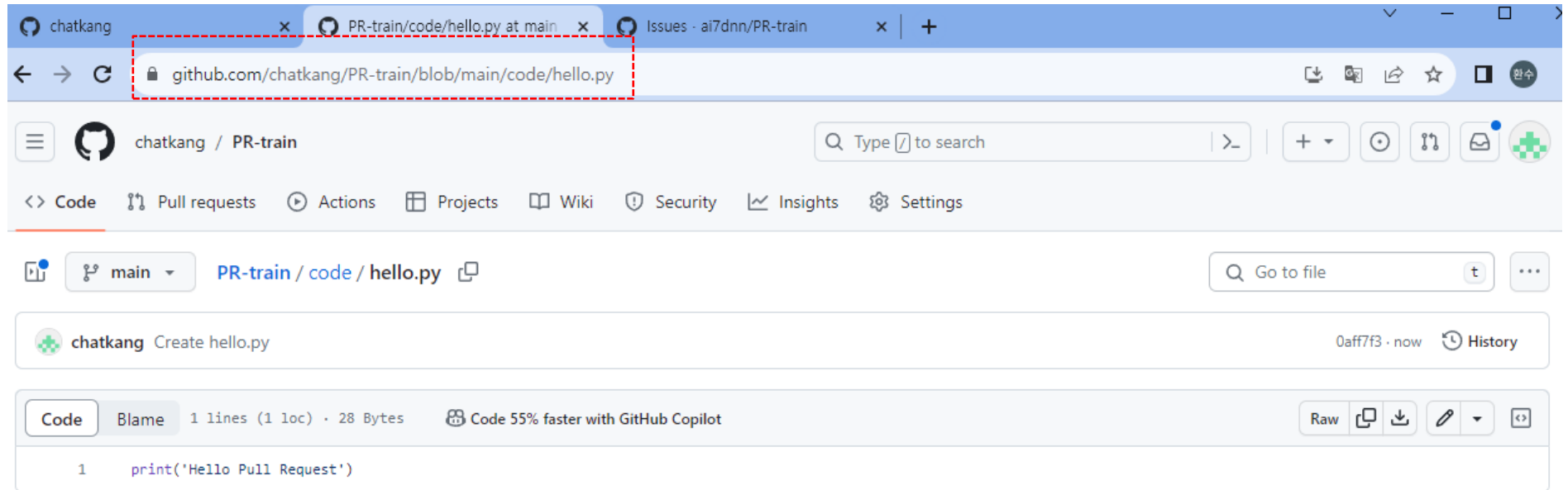
코드를 작성하세요!  
#1 opened 1 minute ago by ai7dnn

ProTip! Notify someone on an issue with a mention, like: @chatkang.

# 팀원, Remote: Forked 된 자신의 저장소에서 코드 작성

chatkang

- 파일 작성 후 커밋



# 팀원, Remote: PR 생성

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

chatkang

- 복제된 저장소에서 **Contribute > Open pull request** 클릭

The screenshot shows a web browser with three tabs: 'chatkang', 'chatkang/PR-train: PR 연습 저장소', and 'Issues · ai7dnn/PR-train'. The address bar shows 'github.com/chatkang/PR-train/'. The repository page for 'chatkang / PR-train' is displayed, indicating it is a public repository forked from 'ai7dnn/PR-train'. The 'main' branch is selected, showing it is 1 commit ahead of 'ai7dnn:main'. A 'Contribute' button is visible, which has triggered a modal dialog. The modal contains the text 'This branch is 1 commit ahead of ai7dnn:main. Open a pull request to contribute your changes upstream.' and a prominent green 'Open pull request' button. The repository's file list includes 'code', '.gitignore', 'LICENSE', and 'README.md'. The right sidebar shows repository statistics and links to Readme, MIT license, Activity, and Releases.



# 팀원, Remote: Open a PR

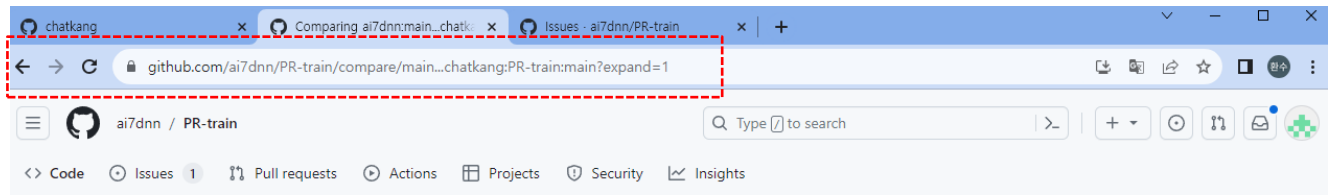
오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

chatkang

- Create PR

주소가 팀장(Upstream)의 주소로 바뀌어서 작업이 됨

적당한 곳에 #issue-number를 삽입



## Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).

base repository: ai7dnn/PR-train base: main head repository: chatkang/PR-train compare: main ✓ Able to merge. These branches can be automatically merged.

Create hello.py #1

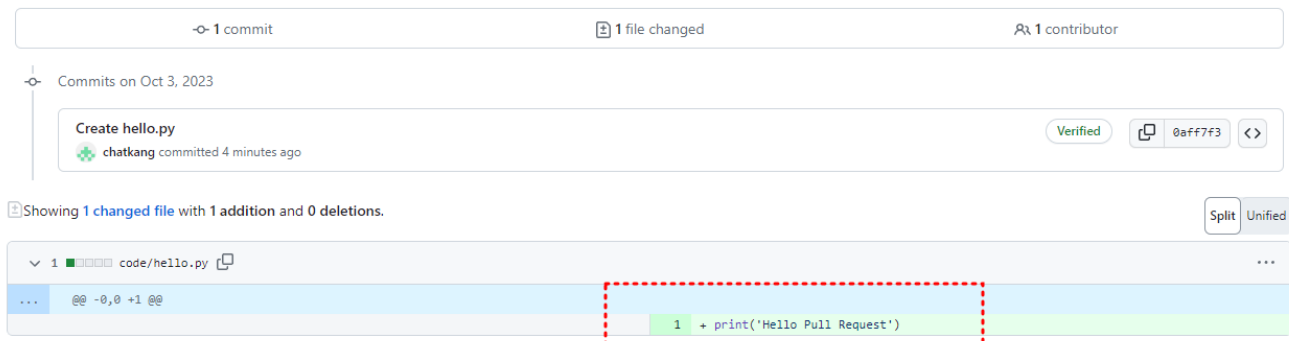
Write Preview

create hello.py

Attach files by dragging & dropping, selecting or pasting them.

☒ Allow edits by maintainers [Create pull request](#)

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).



chatkang

chatkang

Create hello.py #1 by chatkang

Issues · ai7dnn/PR-train

github.com/ai7dnn/PR-train/pull/2

ai7dnn / PR-train

Q Type / to search

+ -

<> Code Issues 1 Pull requests 1 Actions Projects Security Insights

Create hello.py #1 #2

Edit <> Code

Open chatkang wants to merge 1 commit into ai7dnn:main from chatkang:main

Conversation 0 Commits 1 Checks 0 Files changed 1 +1 -0

chatkang commented now

create hello.py

Create hello.py Verified 0af77f3

Add more commits by pushing to the main branch on chatkang/PR-train.

This branch has no conflicts with the base branch

Only those with write access to this repository can merge pull requests.

Write Preview

H B I

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Close pull request Comment

Remember, contributions to this repository should follow our GitHub Community Guidelines.

ProTip! Add .patch or .diff to the end of URLs for Git's plaintext views.

Reviewers

No reviews

Still in progress? Convert to draft

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Development

Successfully merging this pull request may close these issues.

None yet

Notifications

Customize

Unsubscribe

You're receiving notifications because you authored the thread.

1 participant

Allow edits by maintainers

# 팀장, Upstream: Upstream에서 PR 확인 후 클릭

ai7dnn

The screenshot shows a web browser with multiple tabs open. The active tab is 'ai7dnn/PR-train: P'. The browser address bar shows 'github.com/ai7dnn/PR-train'. The GitHub repository page for 'ai7dnn / PR-train' is displayed. The 'Pull requests' tab is highlighted with a red dashed box. The repository is public and has 1 branch (main) and 0 tags. The commit history shows an initial commit by ai7dnn 15 minutes ago. The files listed are .gitignore, LICENSE, and README.md, all from the initial commit. The README content is visible, showing the title 'PR-train' and the subtitle 'PR 연습 저장소'. The right sidebar shows repository statistics: 0 stars, 1 watching, and 1 fork. There are no releases or packages published.

# 팀장, Upstream: PR 내용 확인 후, 병합

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

ai7dnn

The screenshot shows a GitHub Pull Request (PR) page for the repository 'ai7dnn / PR-train'. The PR is titled 'Create hello.py #1 #2' and is created by 'chatkang'. The PR is currently open and has 1 commit. The PR description is 'create hello.py'. The PR is verified and has a commit hash of '0a7f7f3'. The PR is ready to be merged. The 'Merge pull request' button is highlighted with a red dashed box. A red dashed box also highlights the 'Confirm' button in the PR description. The PR is ready to be merged.

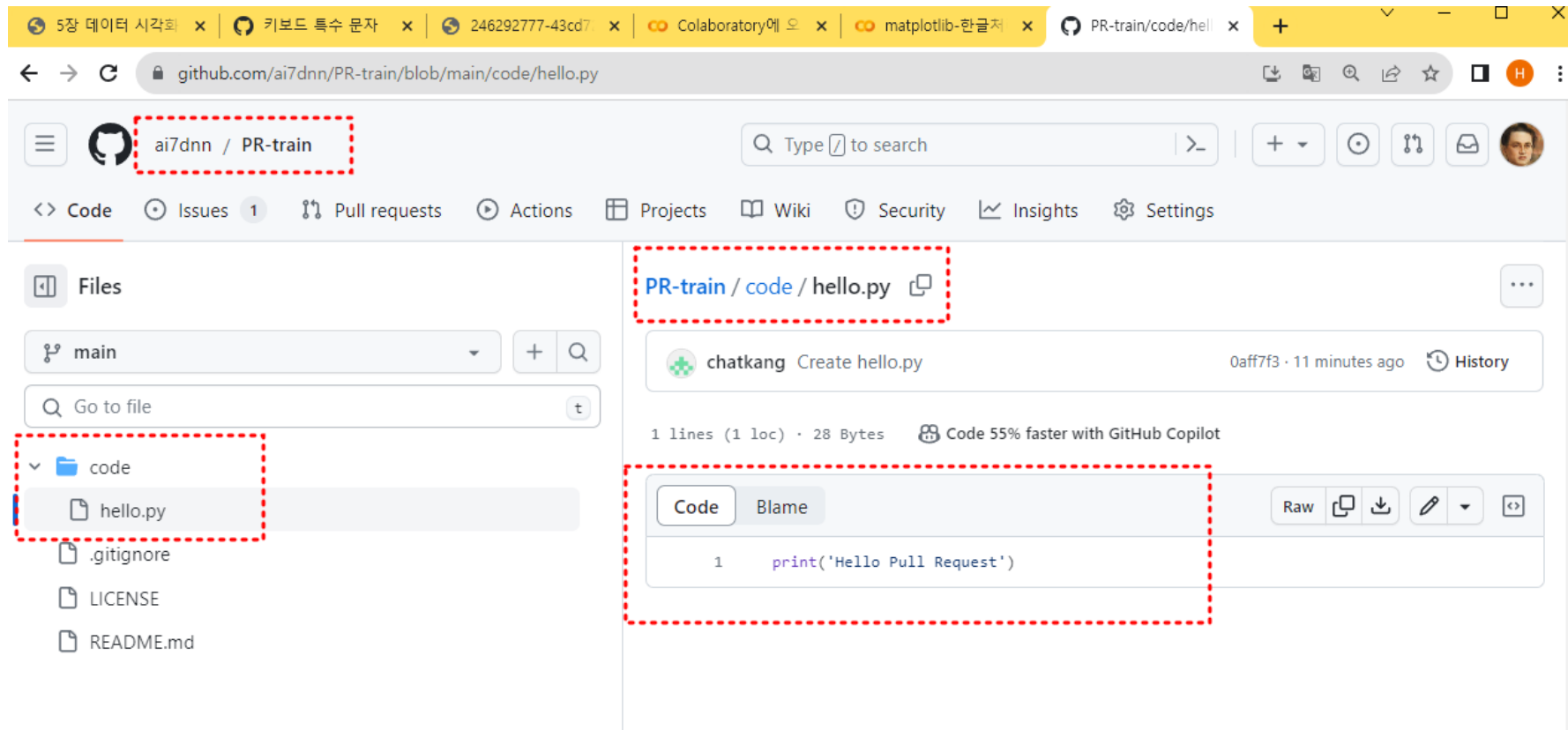
이후 보이는  
Confirm 버튼도 클릭

# 팀장, Upstream: PR의 병합 확인

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

ai7dnn

- 결과적으로 팀원이 작성한 파일이 보임



# 팀원, Remote: Remote에서도 PR 병합 확인

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

chatkang

- 커밋의 수가 Upstream보다 하나 적음

chatkang / PR-train

PR-train Public  
forked from ai7dnn/PR-train

main 1 branch 0 tags

This branch is 1 commit behind ai7dnn:main.

Contribute Sync fork

chatkang	Create hello.py	0aff7f3	14 minutes ago	2 commits
code	Create hello.py		14 minutes ago	
.gitignore	Initial commit		22 minutes ago	
LICENSE	Initial commit		22 minutes ago	
README.md	Initial commit		22 minutes ago	

README.md

PR-train

PR 연습 저장소

Upstream에서 PR은 되었으나 아직  
remote 와 sync는 안된 상태

# Upstream과 Remote commit 비교

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

ai7dnn

chatkang

Commits

main

Commits on Oct 3, 2023

- Merge pull request #2 from chatkang/main  
ai7dnn committed 8 minutes ago
- Create hello.py  
chatkang committed 19 minutes ago
- Initial commit  
ai7dnn committed 27 minutes ago

Newer Older

Upstream에서 PR이 병합되어  
n회의 커밋 발생

Commits

main

Commits on Oct 3, 2023

- Create hello.py  
chatkang committed 19 minutes ago
- Initial commit  
ai7dnn committed 27 minutes ago

Newer Older

Remote에서는 Upstream에서  
PR이 병합된 커밋이 반영되지  
않아 n-1회의 커밋 발생

# 팀원, Remote: 다시 sync fork

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

chatkang

The screenshot shows a GitHub repository page for 'chatkang/PR-train'. The repository is public and was forked from 'ai7dnn/PR-train'. It has 1 fork, 0 stars, and 0 watches. The main branch is selected, and it is noted that this branch is 1 commit behind the upstream repository. A notification box states 'This branch is out-of-date' and suggests updating the branch by syncing 1 commit from the upstream repository. A red dashed box highlights the 'Update branch' button. Another red dashed box with Korean text 'Remote에서 Upstream과 동일하게 만듦' (Make it the same as Upstream on Remote) points to the 'Update branch' button. The repository contains a 'code' directory with 'hello.py', a '.gitignore' file, a 'LICENSE' file, and a 'README.md' file. The README.md file is titled 'PR-train' and contains the text 'PR 연습 저장소' (PR practice repository).



# 팀장, Upstream: 이슈 연결 확인

오픈소스 소프트웨어를 위한 깃과 깃허브 Python language

ai7dnn

The screenshot shows a web browser window with the GitHub interface. The address bar shows the URL `github.com/ai7dnn/PR-train/issues/1`. The repository name `ai7dnn / PR-train` is highlighted with a red dashed box. The issue title is `코드를 작성하세요! #1`. The issue was opened by `ai7dnn` 27 minutes ago. A comment by `ai7dnn` 27 minutes ago says `코드 작성`. Below the comment, a commit by `ai7dnn` 12 minutes ago is shown, which merged pull request #2 from `chatkang/main`. This commit is also highlighted with a red dashed box. The commit message is `Merge pull request #2 from chatkang/main`. The commit is verified and has the hash `751d6fc`. On the right side, there are sections for Assignees, Labels, Projects, Milestone, Development, and Notifications. The Notifications section shows an `Unsubscribe` button. At the bottom, there is a reminder to follow the GitHub Community Guidelines.