

Modifying a repo structure

GITHUB CONCEPTS



George Boorman

Curriculum Manager, DataCamp

Creating a new file

The screenshot shows a GitHub repository page for 'george-boorman / soccer_analysis'. The repository is public and has 1 branch and 0 tags. The 'Code' tab is selected. On the right, there's a navigation bar with 'Go to file', 'Add file ▾' (which is highlighted with a yellow box), 'Code ▾', and 'About'. A dropdown menu from 'Add file ▾' shows 'Create new file' and 'Upload files'. The 'About' section indicates no description, website, or topics provided. It also shows 3 commits, 4 days ago, and 0 forks. Below the code area, there's a preview of the README.md file which contains the text 'soccer_analysis'.

george-boorman / soccer_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

main 1 branch 0 tags

george-boorman Update README.md

.gitignore Create .gitignore 4 days ago

README.md Update README.md 4 days ago

README.md

soccer_analysis

Add file ▾

Create new file

Upload files

3 commits

4 days ago

4 days ago

About

No description, website, or topics provided.

Readme

0 stars

1 watching

0 forks

Releases

No releases published

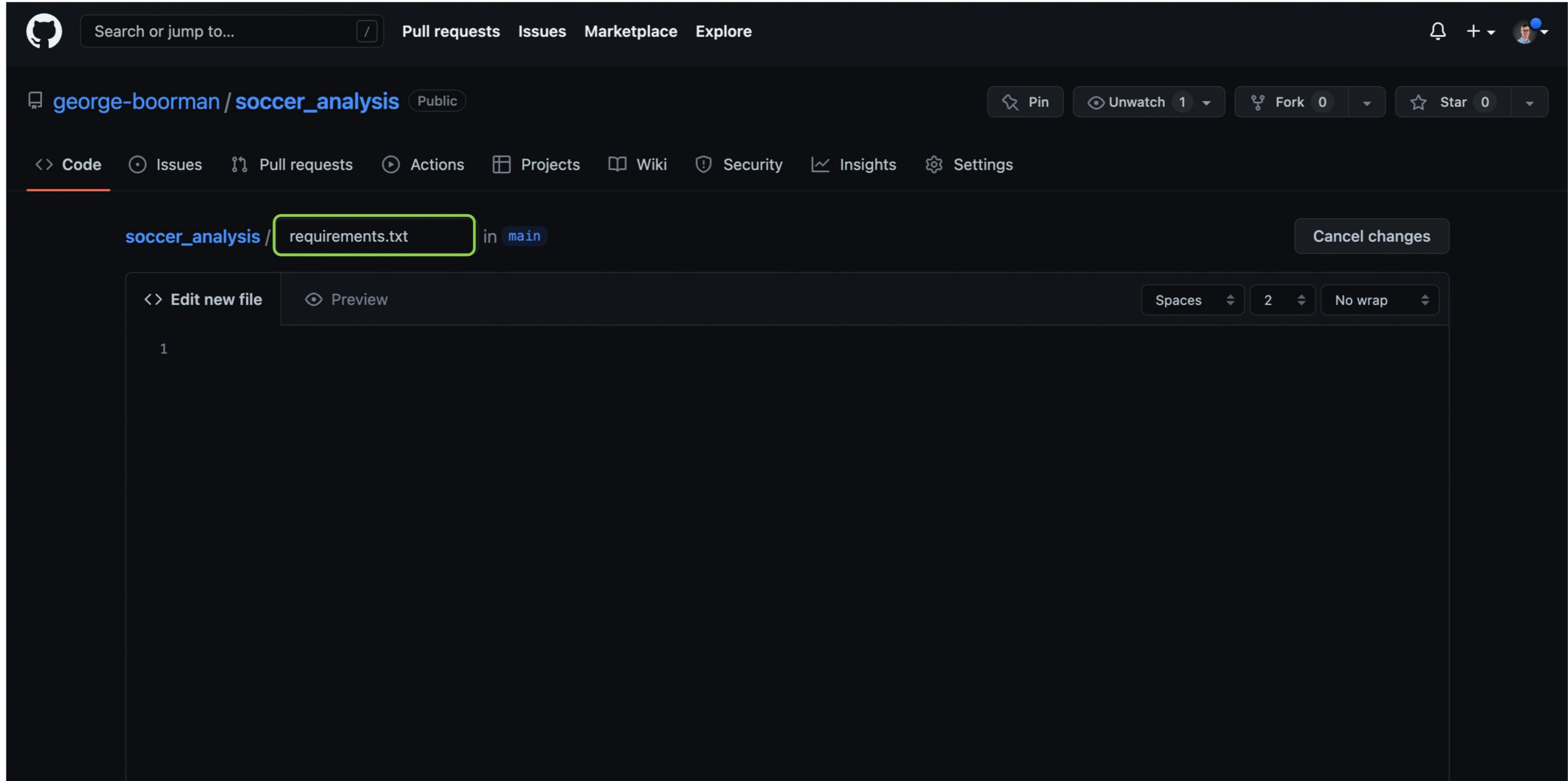
Create a new release

Packages

No packages published

Publish your first package

Naming the file



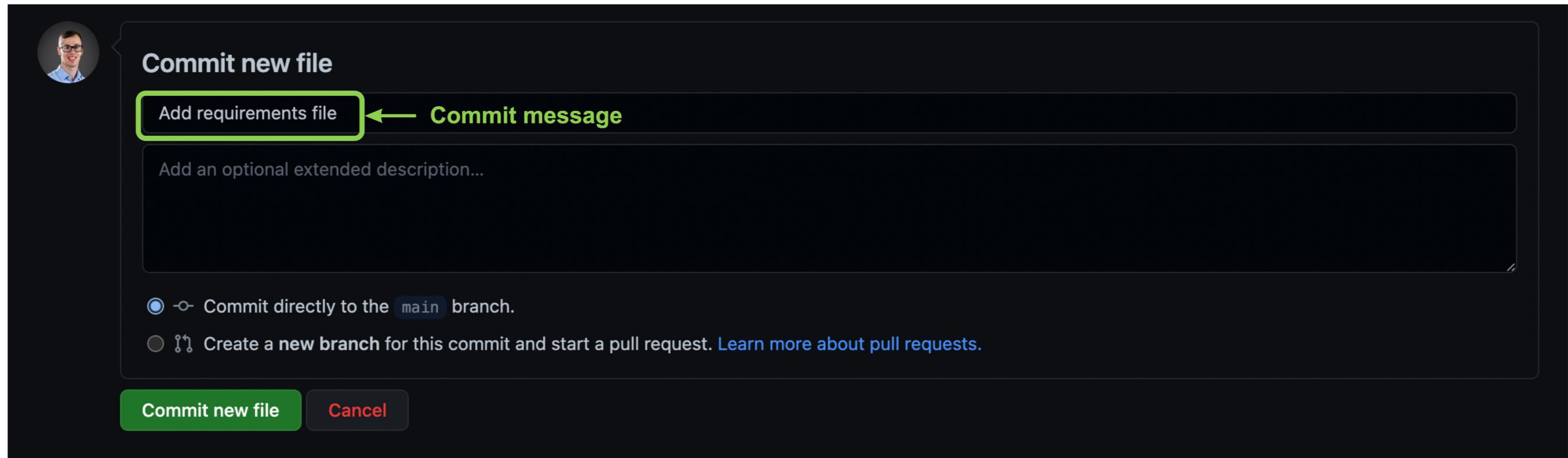
Editing the new file

The screenshot shows a GitHub repository page for 'george-boorman / soccer_analysis'. The repository is public. The 'Code' tab is selected. A modal window is open for editing the file 'requirements.txt' in the 'main' branch. The modal has a green border around the 'Edit new file' tab. The code content is:

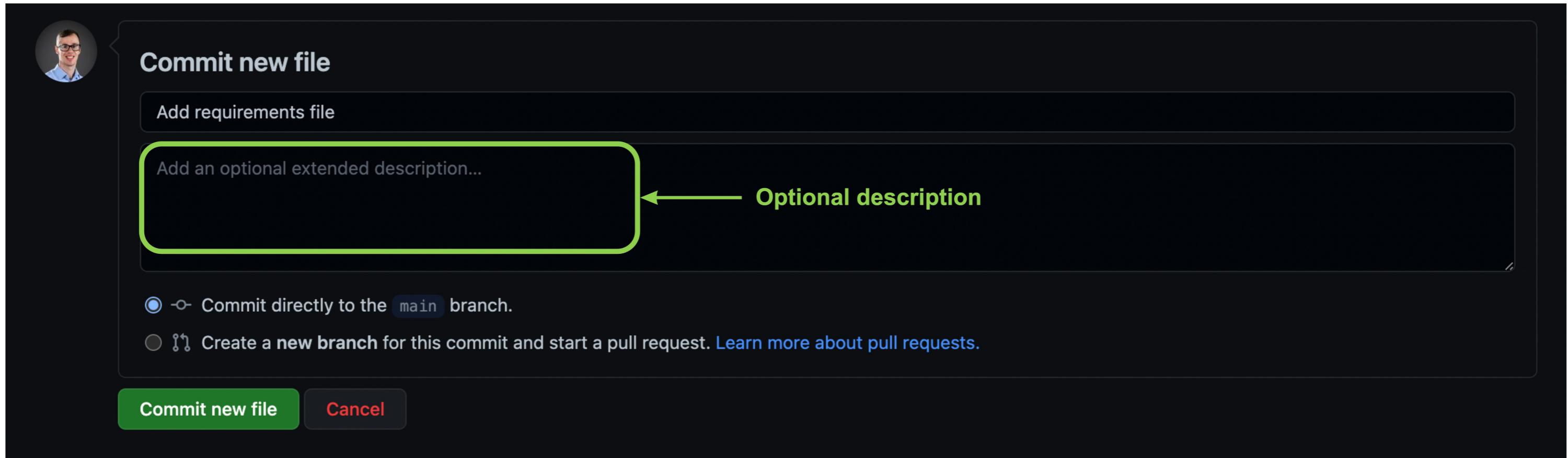
```
1 numpy==1.19.5
2 pandas==1.4.0
3 matplotlib==3.5.0
```

Buttons in the modal include 'Cancel changes', 'Edit new file' (selected), 'Preview', 'Spaces' (dropdown set to 2), and 'No wrap' (dropdown).

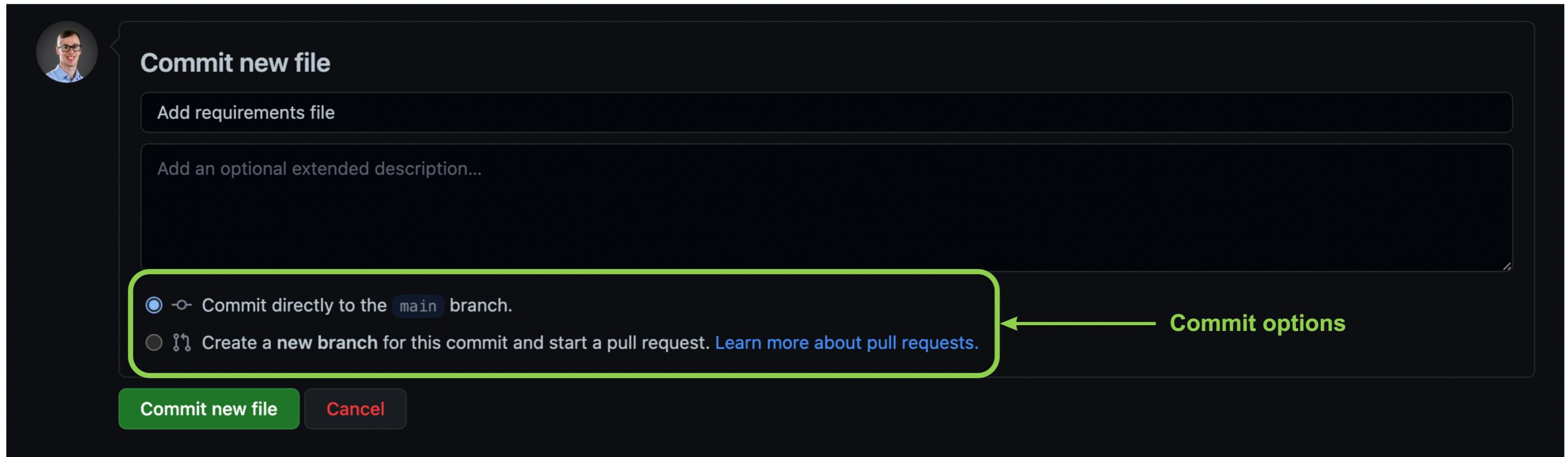
Committing the new file



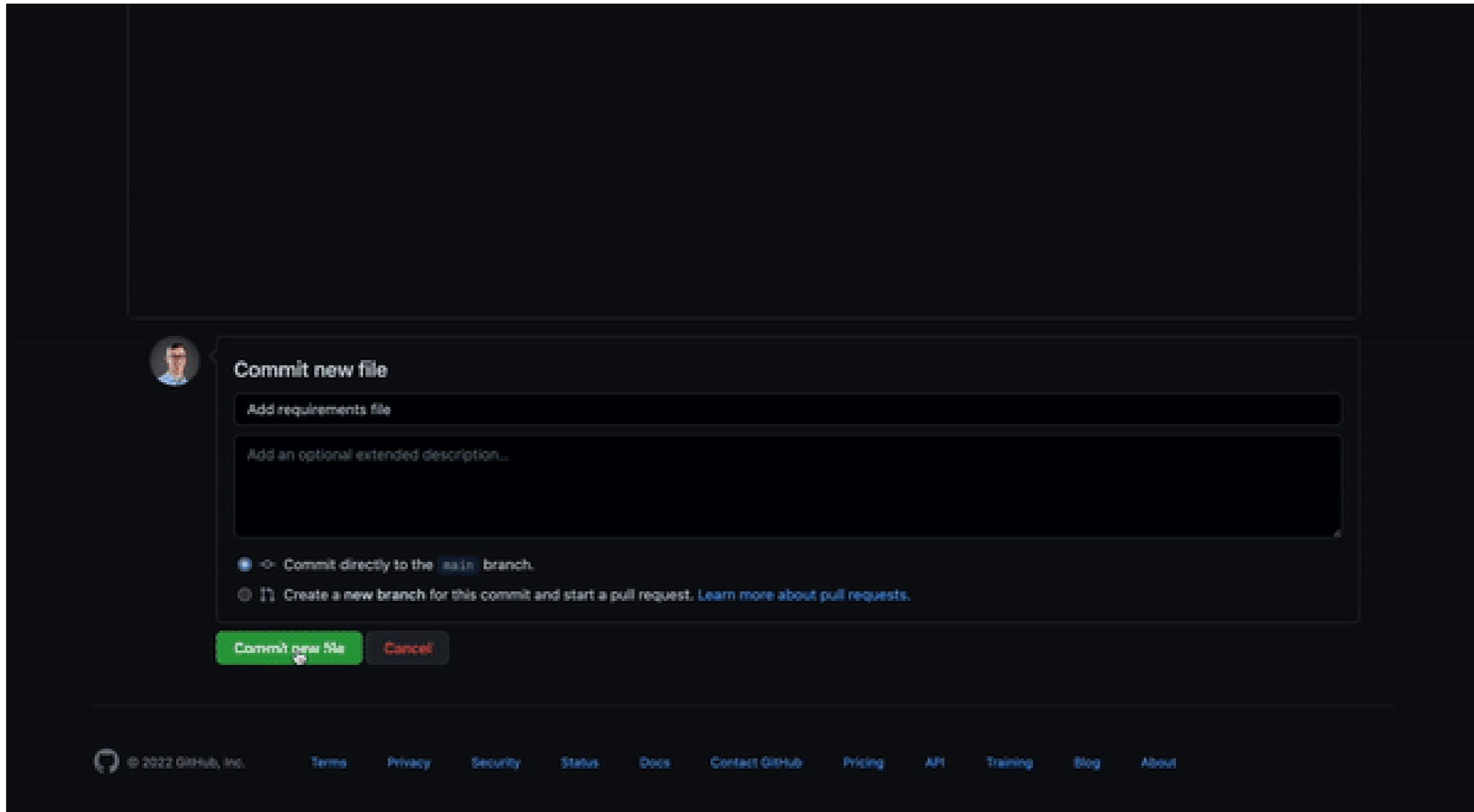
Committing the new file



Committing the new file



Committing the new file



Uploading a file

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and has 1 branch and 0 tags. The `Code` tab is selected. A context menu is open over the repository header, with the `Upload files` option highlighted and surrounded by a green box.

Code tab selected.

Repository stats: 1 branch, 0 tags.

Recent commits:

- george-boorman Add requirements file (4 days ago)
- Create .gitignore (4 days ago)
- Update README.md (4 days ago)
- Add requirements file (8 minutes ago)

Code dropdown menu (highlighted):

- Go to file
- Add file ▾
- Code ▾ (selected)
- Create new file
- Upload files** (highlighted with a green box)

About section:

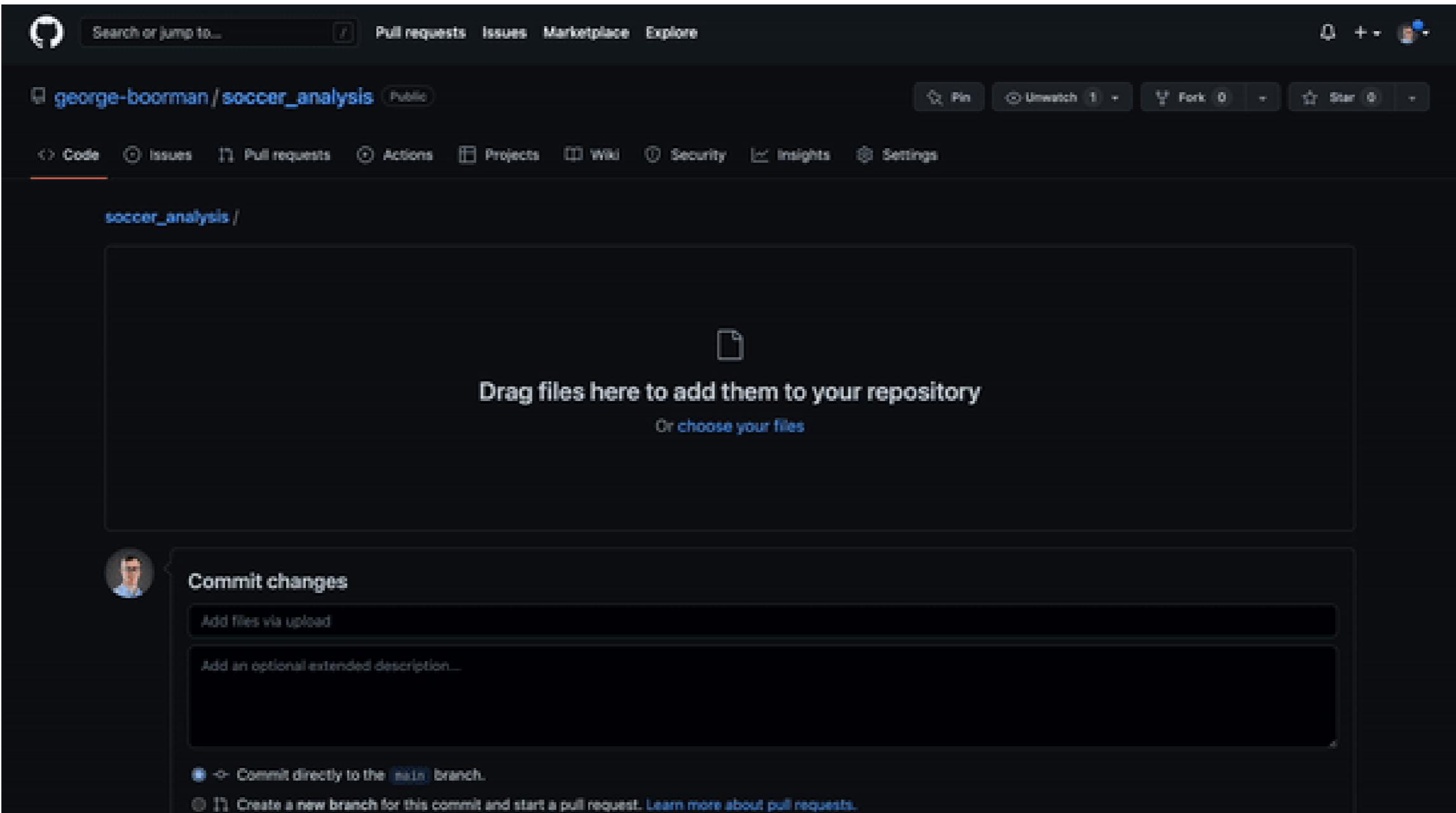
No description, website, or topics provided.

Readme, **0 stars**, **1 watching**, **0 forks**.

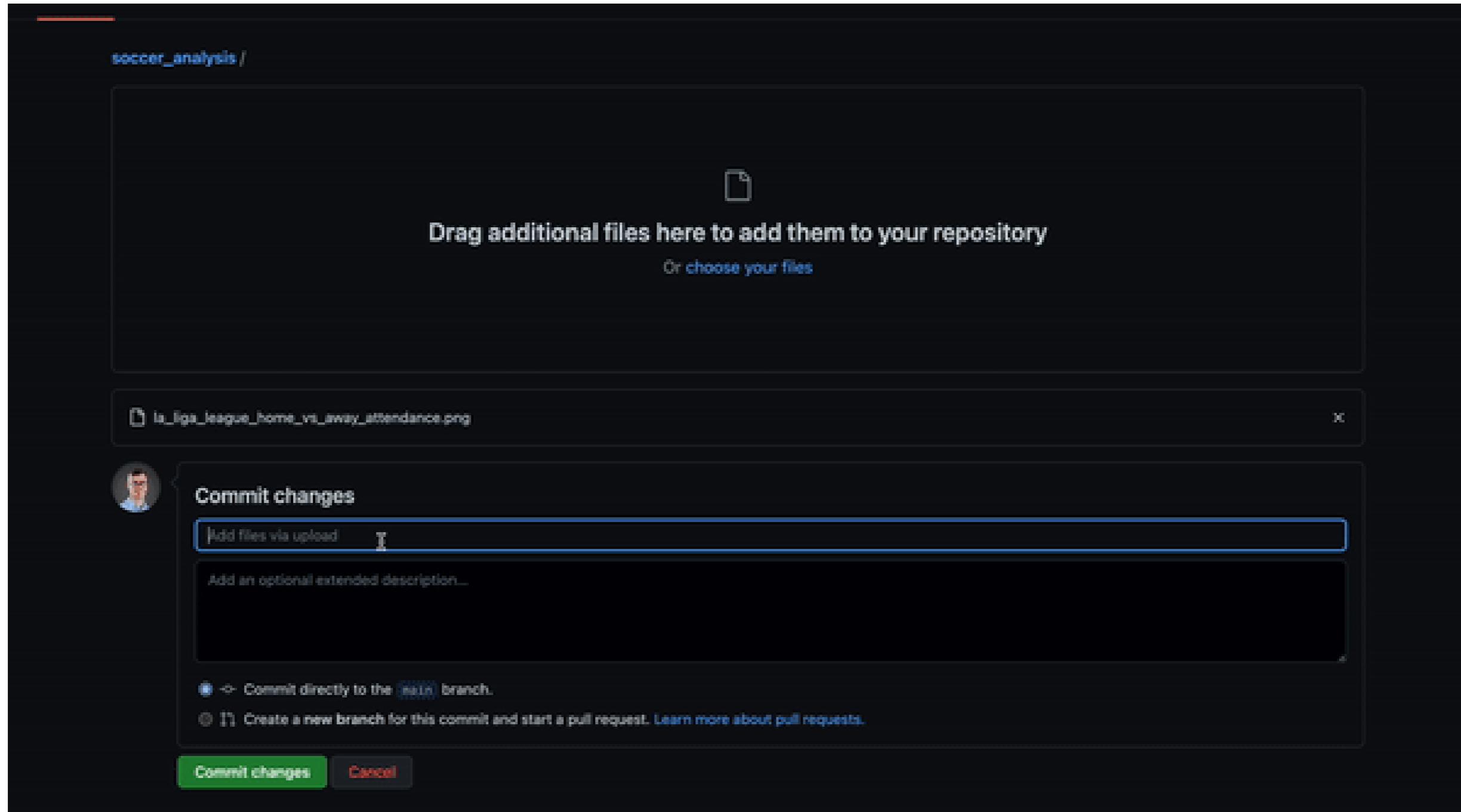
Releases: No releases published. Create a new release.

Packages: No packages published. Publish your first package.

Uploading a file



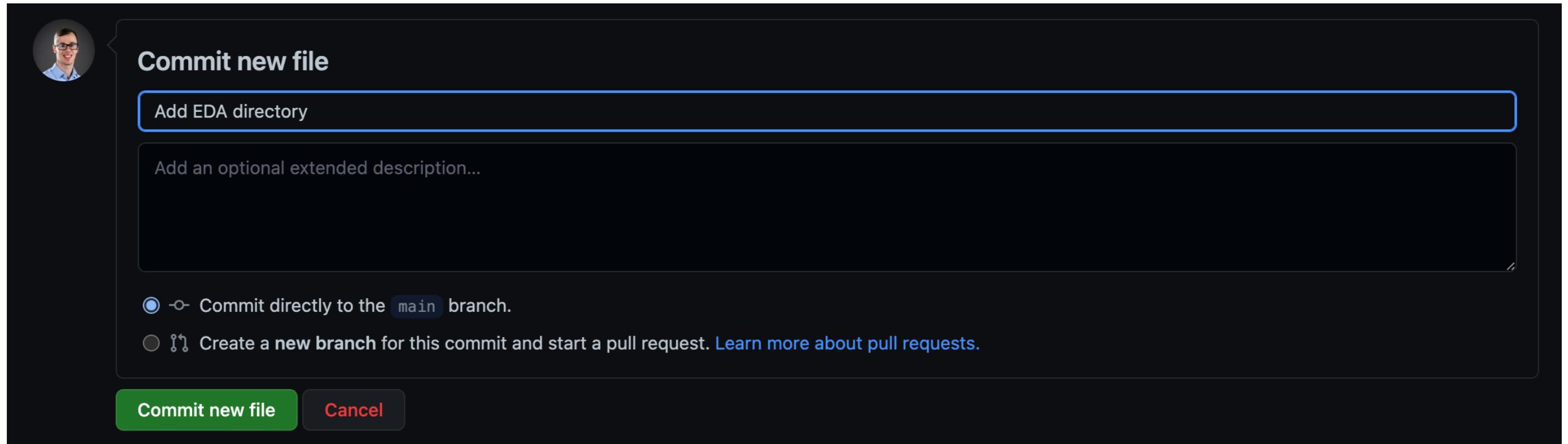
Uploading a file



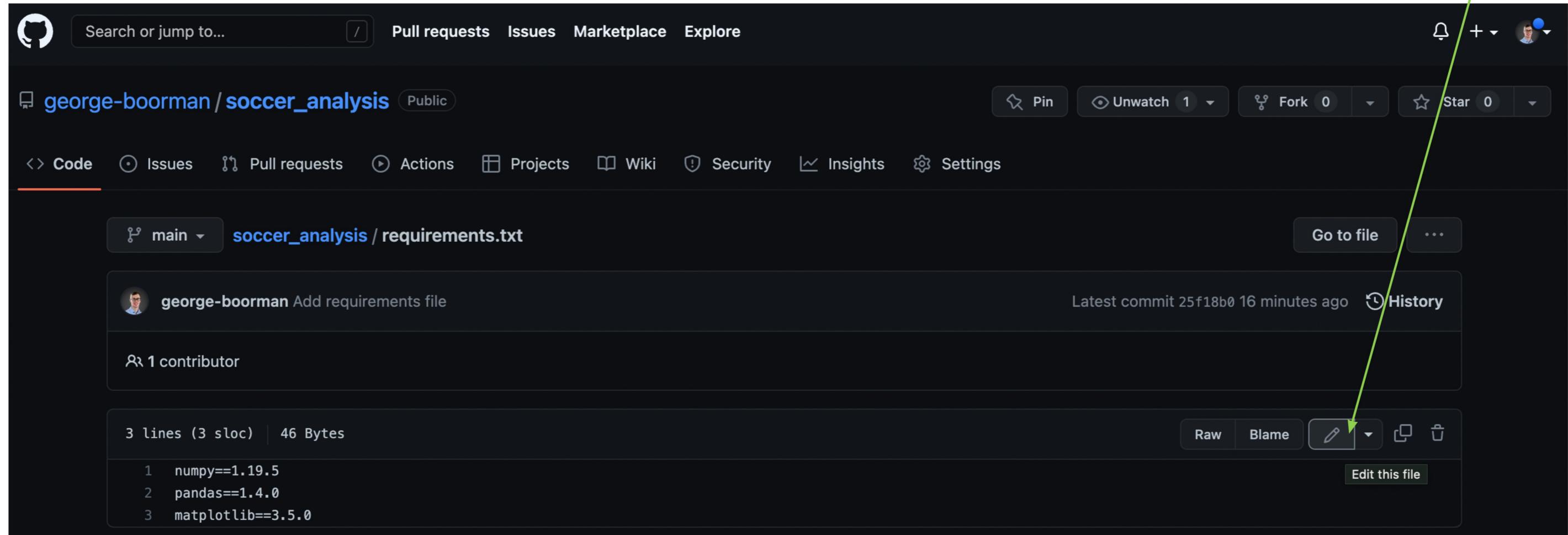
Creating a new directory

The screenshot shows a GitHub repository page for 'george-boorman/soccer_analysis'. The 'Code' tab is selected. A modal window is open, prompting the user to 'Name your file...'. The input field contains 'soccer_analysis/'. Below the input field are two buttons: 'Edit new file' and 'Preview'. To the right of the input field are settings for 'Spaces' (set to 0), 'Line wrap' (set to 0), and 'No wrap' (set to 0). The background shows the repository's main page with tabs for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings.

Creating a new directory



Modifying a file



A screenshot of a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public. The main navigation bar includes links for Pull requests, Issues, Marketplace, Explore, Pin, Unwatch (1), Fork (0), and Star (0). Below the navigation bar, there are links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The 'Code' link is underlined, indicating it is the active tab. In the center, the file `soccer_analysis / requirements.txt` is displayed. The file was last committed by `george-boorman` 16 minutes ago. It has 1 contributor. The file content shows three lines of code: `numpy==1.19.5`, `pandas==1.4.0`, and `matplotlib==3.5.0`. At the bottom right of the file preview, there are buttons for Raw, Blame, Edit (with a dropdown arrow), Copy, and Delete. A green arrow points to the 'Edit' button.

Modifying a file

The screenshot shows a GitHub repository page for 'george-boorman / soccer_analysis'. The 'Code' tab is selected. A modal window is open over the code editor, showing the 'requirements.txt' file content:

```
1 numpy==1.19.5
2 pandas==1.4.0
3 matplotlib==3.5.0
4 seaborn==0.11.2
```

The modal includes buttons for 'Edit file' (selected), 'Preview changes', and 'Cancel changes'. It also has settings for 'Spaces' (set to 2) and 'Soft wrap'.

Deleting a file

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and has 1 branch and 0 tags. The `Code` tab is selected. A commit by `george-boorman` titled "Add EDA directory" is visible, along with several other commits related to EDA and README updates.

Code | **Issues** | **Pull requests** | **Actions** | **Projects** | **Wiki** | **Security** | **Insights** | **Settings**

Code | **Add file** | **Code** | **About**

george-boorman Add EDA directory 8795fb3 1 minute ago 9 commits

EDA Add EDA directory 1 minute ago

.gitignore Create .gitignore 4 days ago

README.md Update README.md 4 days ago

la_liga_league_home_vs_away_att... Add la liga attendance plot 11 minutes ago

requirements.txt Add seaborn to requirements.txt 6 minutes ago

README.md

soccer_analysis

About

No description, website, or topics provided.

Readme | 0 stars | 1 watching | 0 forks

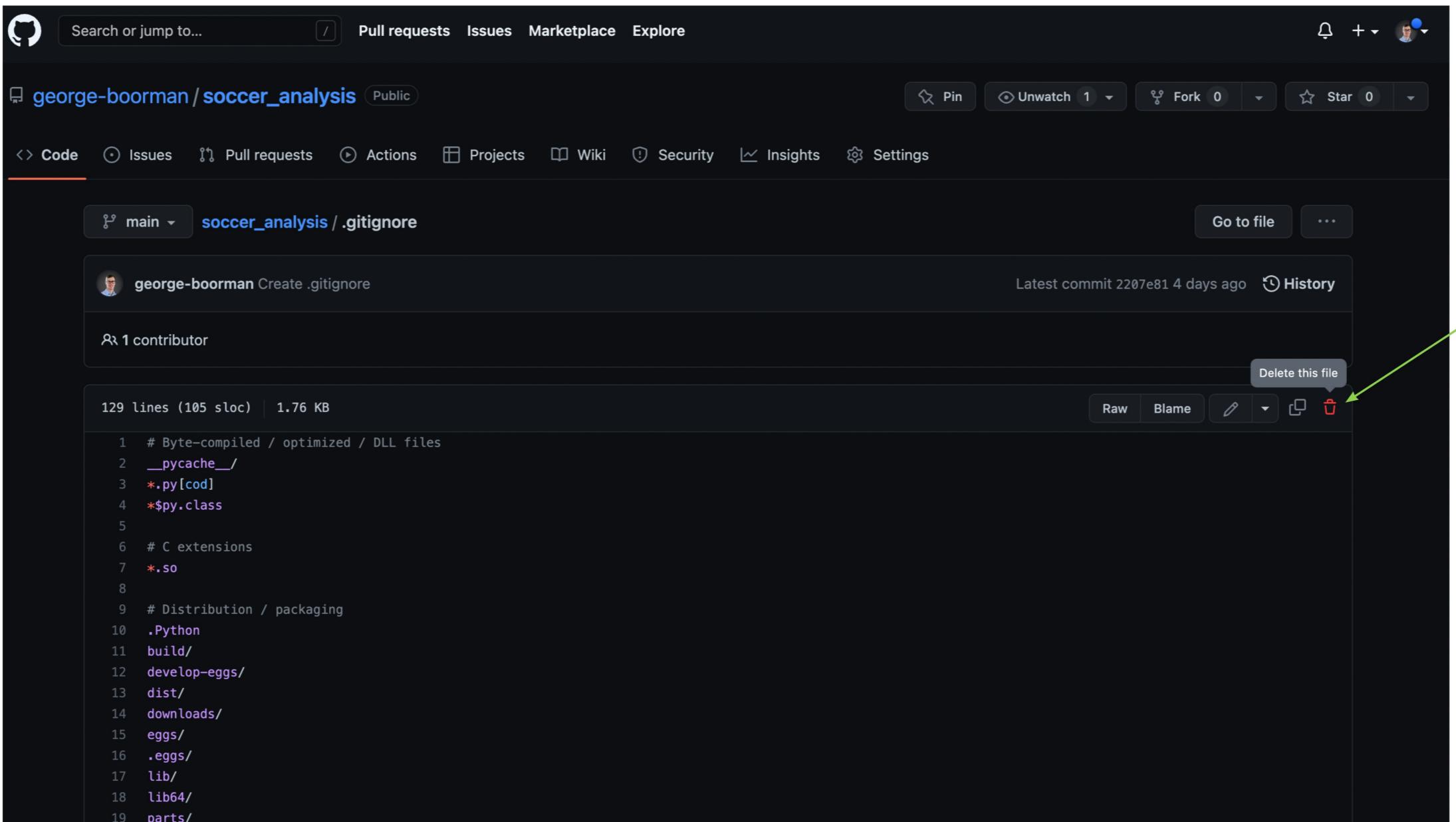
Releases

No releases published | Create a new release

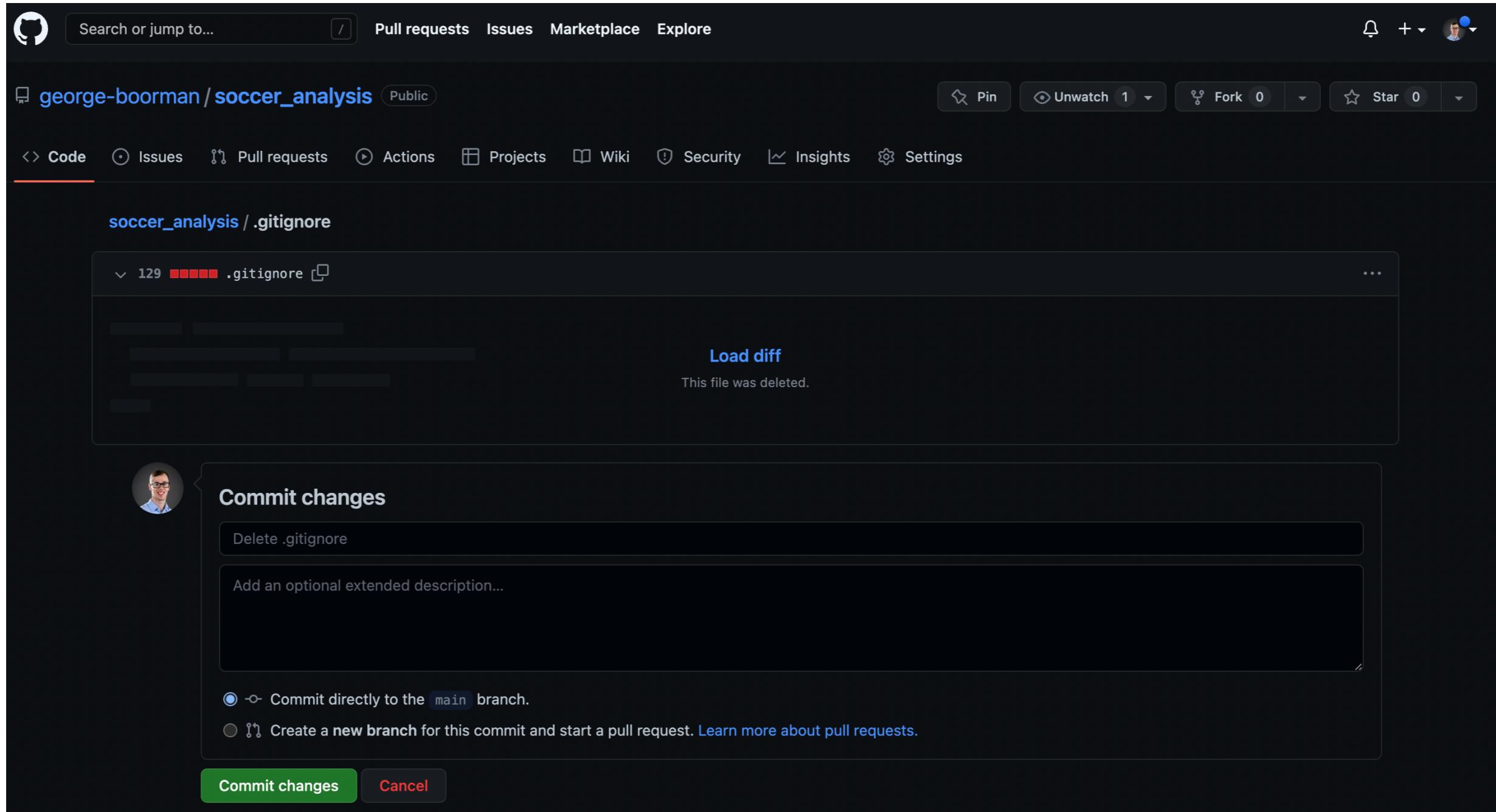
Packages

No packages published | Publish your first package

Deleting a file



Deleting a file



Let's practice!

GITHUB CONCEPTS

Working with branches

GITHUB CONCEPTS

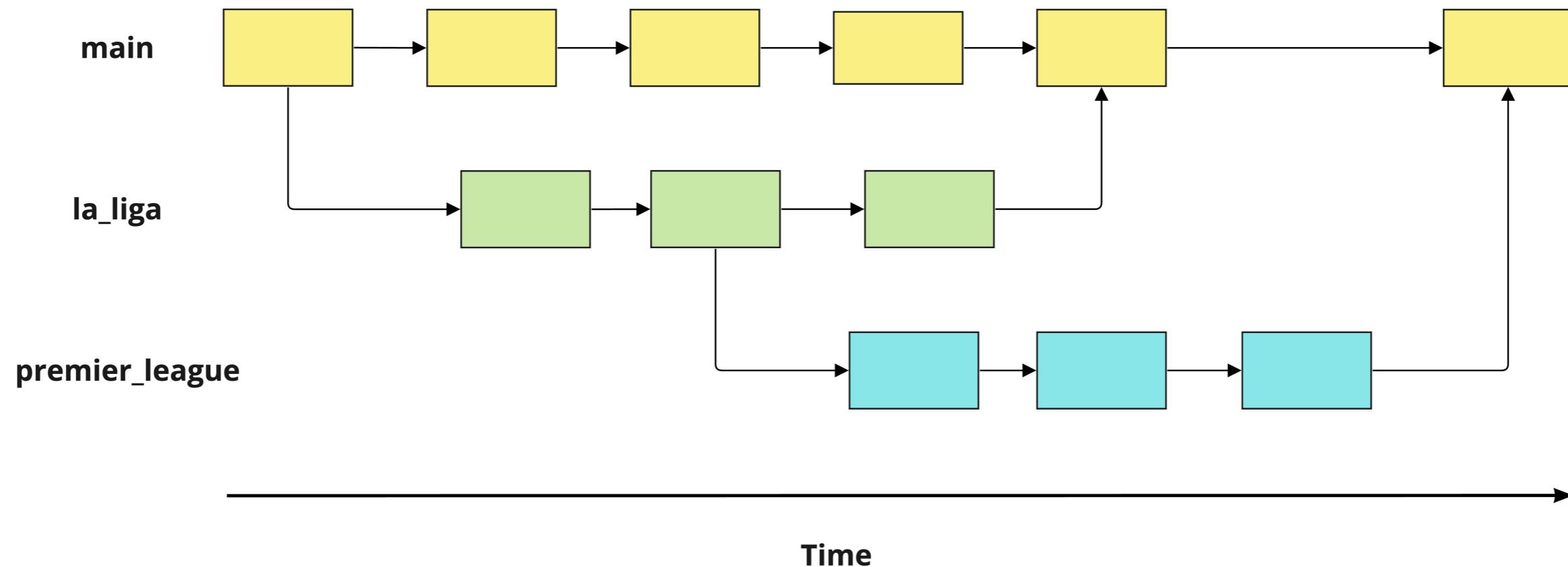


George Boorman

Curriculum Manager, DataCamp

Branches

- Enable concurrent work on different parts of a project
- Help reduce the risk of conflicting file versions



Main branch

The screenshot shows a GitHub repository page for the user 'george-boorman' with the repository name 'soccer_analysis'. The repository is public. The main branch is selected, indicated by a green border around the 'main' dropdown menu. The repository has 1 branch and 0 tags. The commit history shows the following activity:

- george-boorman Delete .gitignore (b45ce89, 1 hour ago)
- EDA Add EDA directory (1 hour ago)
- README.md Update README.md (4 days ago)
- la_liga_league_home_vs_away_att... Add la liga attendance plot (1 hour ago)
- requirements.txt Add seaborn to requirements.txt (1 hour ago)

The repository has 10 commits in total. On the right side, there is an 'About' section with the message: 'No description, website, or topics provided.' It also shows 0 stars, 1 watching, and 0 forks. There are sections for 'Releases' (no releases published) and 'Packages' (no packages published).

How many branches?

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The main navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. On the right, there are buttons for Pin, Unwatch (1), Fork (0), and Star (0). Below the navigation, there are tabs for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The Code tab is selected. A dropdown menu shows the current branch as `main` and indicates there is 1 branch and 0 tags. The main content area displays a list of recent commits:

Author	Commit Message	Date	Commits
george-boorman	Delete .gitignore	b45ce89 1 hour ago	10 commits
	EDA	Add EDA directory	1 hour ago
	README.md	Update README.md	4 days ago
	la_liga_league_home_vs_away_att...	Add la liga attendance plot	1 hour ago
	requirements.txt	Add seaborn to requirements.txt	1 hour ago

Below the commit list, there is a preview of the `README.md` file, which contains the text `soccer_analysis`.

About

No description, website, or topics provided.

Code

Readme
0 stars
1 watching
0 forks

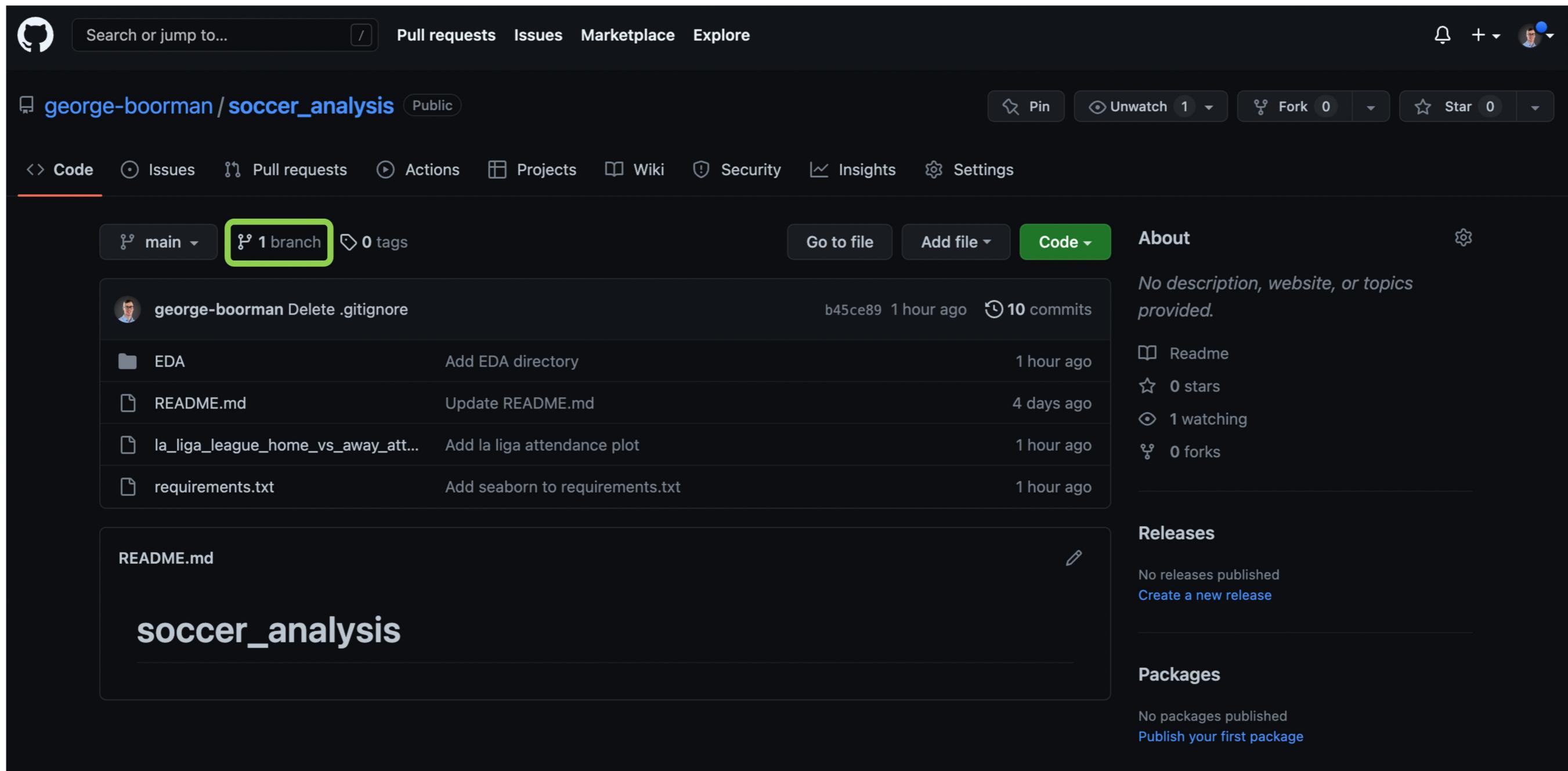
Releases

No releases published
Create a new release

Packages

No packages published
Publish your first package

Creating a new branch



The screenshot shows a GitHub repository page for 'george-boorman / soccer_analysis'. The 'Code' tab is selected. A green box highlights the 'main' branch button, which has a dropdown menu showing 'main' and '1 branch'. Below the branches, there is a list of recent commits:

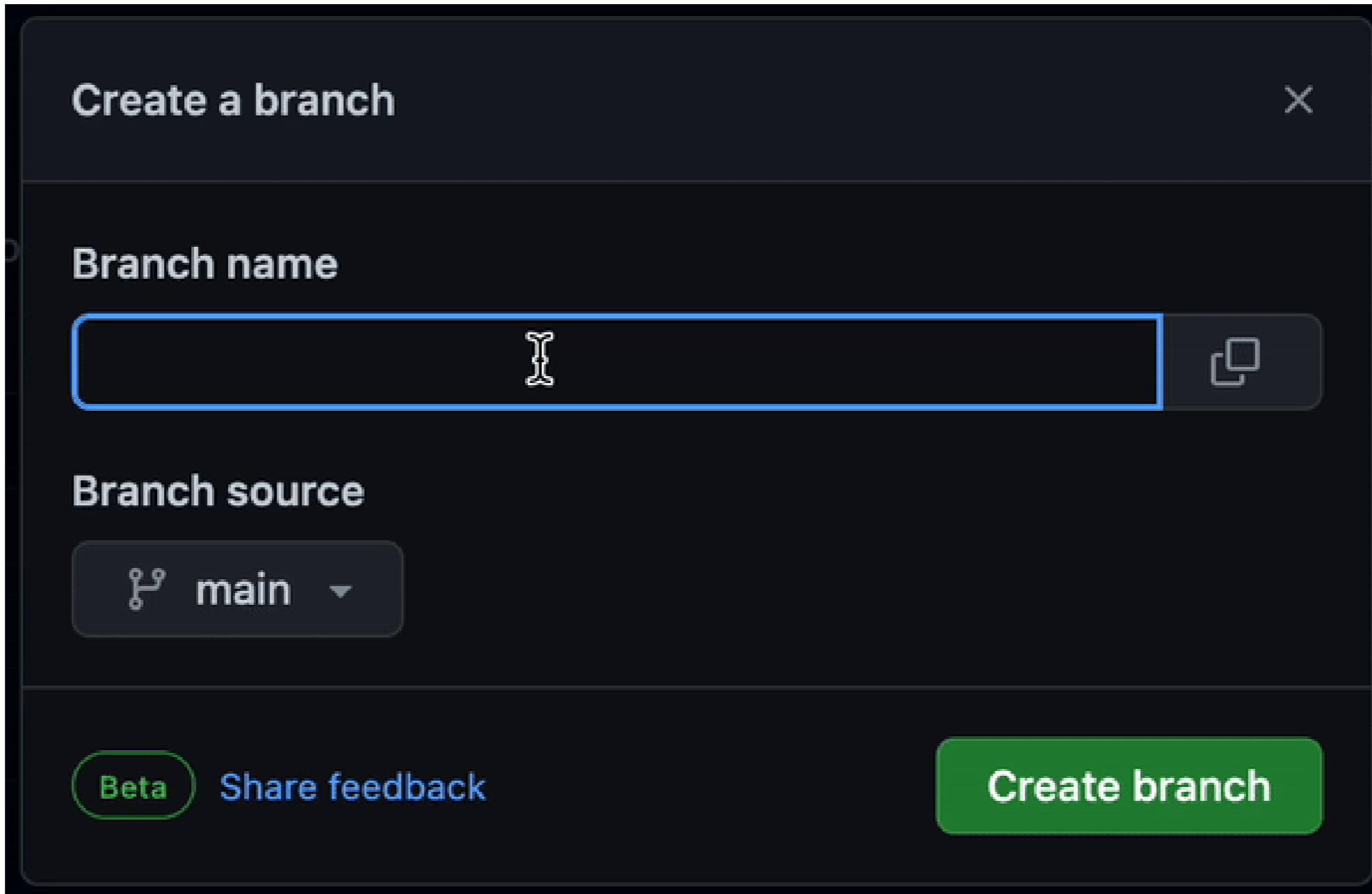
- george-boorman Delete .gitignore (b45ce89, 1 hour ago, 10 commits)
- EDA (Add EDA directory, 1 hour ago)
- README.md (Update README.md, 4 days ago)
- la_liga_league_home_vs_away_att... (Add la liga attendance plot, 1 hour ago)
- requirements.txt (Add seaborn to requirements.txt, 1 hour ago)

On the right side, there are sections for 'About', 'Releases', and 'Packages'. The 'About' section notes 'No description, website, or topics provided.' The 'Releases' section says 'No releases published' and 'Create a new release'. The 'Packages' section says 'No packages published' and 'Publish your first package'.

Creating a new branch

The screenshot shows a GitHub repository page for 'george-boorman / soccer_analysis'. The 'Code' tab is active. In the top navigation bar, there is a 'New branch' button highlighted with a green box. Other buttons in the bar include 'Overview', 'Yours', 'Active', 'Stale', and 'All branches'. The main area displays the 'Default branch' named 'main', which was updated 1 hour ago by 'george-boorman'. The GitHub footer at the bottom includes links for Terms, Privacy, Security, Status, Docs, Contact GitHub, Pricing, API, Training, Blog, and About.

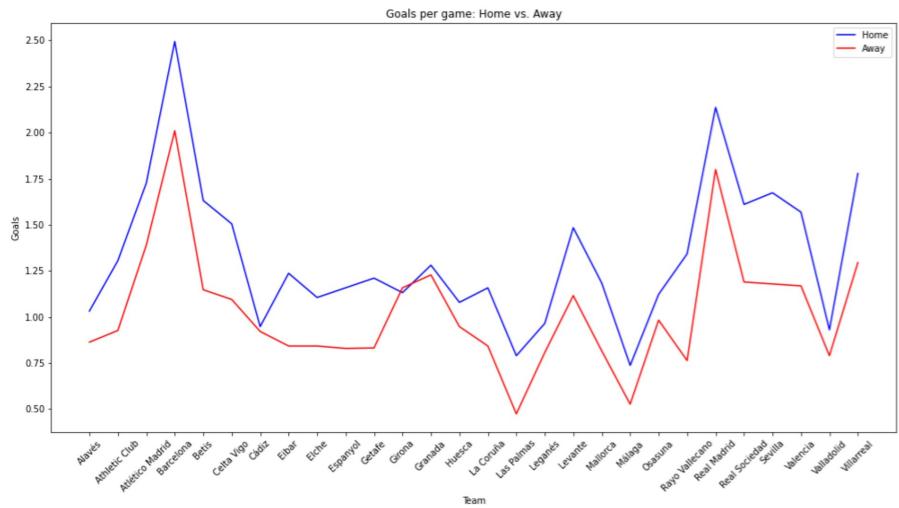
Creating a new branch



Creating a new branch

The screenshot shows a GitHub repository page for 'george-boorman / soccer_analysis'. The repository is public. At the top, there is a search bar and navigation links for Pull requests, Issues, Marketplace, and Explore. A notification bell icon shows 1 unread notification. The main content area displays a message: 'Branch la_liga will be created shortly.' Below this, the repository name and public status are shown, along with options to Pin, Unwatch, Fork, and Star. The navigation bar includes Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings, with 'Code' being the active tab. A search bar for branches is present. The 'Overview' tab is selected. Below the tabs, there are three sections: 'Default branch' (main), 'Your branches' (la_liga), and 'Active branches' (la_liga). Each section shows the branch name, last update time ('Updated 1 hour ago by george-boorman'), and a 'New pull request' button. The 'New branch' button is highlighted in green.

Adding a file



Search or jump to... Pull requests Issues Marketplace Explore

george-boorman / soccer_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

la_liga had recent pushes less than a minute ago Compare & pull request

la_liga 2 branches 0 tags Go to file Add file Code

This branch is 1 commit ahead of main. Contribute

george-boorman Add la liga home vs away goals plot f2d9072 now 11 commits

EDA Add EDA directory 16 hours ago

README.md Update README.md 5 days ago

la_liga_league_home_vs_away_att... Add la liga attendance plot 16 hours ago

la_liga_league_home_vs_away_goa... Add la liga home vs away goals plot now

requirements.txt Add seaborn to requirements.txt 16 hours ago

README.md

soccer_analysis

About

No description, website, or topics provided.

Readme

0 stars

1 watching

0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

Listing branches

The screenshot shows a GitHub repository page for `george-boorman/soccer_analysis`. The repository is public and has 2 branches. The `Code` tab is selected. A message indicates that the `la_liga` branch had recent pushes less than a minute ago. The `la_liga` branch is 1 commit ahead of the `main` branch. The repository has 11 commits, 0 forks, and 1 watching. There are no releases or packages published.

george-boorman / soccer_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

la_liga had recent pushes less than a minute ago

la_liga 2 branches 0 tags

This branch is 1 commit ahead of main.

george-boorman Add la liga home vs away goals plot f2d9072 1 minute ago 11 commits

EDA Add EDA directory 16 hours ago

README.md Update README.md 5 days ago

la_liga_league_home_vs_away_att... Add la liga attendance plot 16 hours ago

la_liga_league_home_vs_away_goa... Add la liga home vs away goals plot 1 minute ago

requirements.txt Add seaborn to requirements.txt 16 hours ago

README.md

soccer_analysis

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

Switching branches

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and contains 2 branches and 0 tags. The 'Code' tab is selected. A dropdown menu titled 'Switch branches/tags' is open, showing the 'la_liga' branch is currently selected. Other branches listed include 'main' and 'la_liga'. The repository has 11 commits in the last hour, 0 stars, 1 watcher, and 0 forks. The README.md file contains the text 'soccer_analysis'.

george-boorman / soccer_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

la_liga ▾ 2 branches 0 tags

Switch branches/tags Find or create a branch...

Branches Tags

main default

✓ la_liga

View all branches

away goals plot f2d9072 1 hour ago 11 commits

Add EDA directory 17 hours ago

Update README.md 5 days ago

la_liga_league_home_vs_away_att... Add la liga attendance plot 18 hours ago

la_liga_league_home_vs_away_goa... Add la liga home vs away goals plot 1 hour ago

requirements.txt Add seaborn to requirements.txt 18 hours ago

README.md

soccer_analysis

Pin Unwatch 1 Fork 0 Star 0

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

Contribute

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

Switching branches

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and contains 2 branches and 0 tags. The 'Code' tab is selected. A dropdown menu titled 'Switch branches/tags' is open, showing the 'main' branch as the current default. Other branches listed are `la_liga` (selected) and `default`. The repository has 11 commits in the last hour, 0 stars, 1 watcher, and 0 forks. The README.md file contains the text 'soccer_analysis'.

george-boorman / soccer_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

la_liga ▾ 2 branches 0 tags

Switch branches/tags

Find or create a branch...

Branches Tags

main default

View all branches

la_liga

away goals plot f2d9072 1 hour ago 11 commits

Add EDA directory 17 hours ago

Update README.md 5 days ago

la_liga_league_home_vs_away_att... Add la liga attendance plot 18 hours ago

la_liga_league_home_vs_away_goa... Add la liga home vs away goals plot 1 hour ago

requirements.txt Add seaborn to requirements.txt 18 hours ago

README.md

soccer_analysis

Pin Unwatch 1 Fork 0 Star 0

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

Comparing branches

The screenshot shows a GitHub repository page for `george-boorman/soccer_analysis`. The page has a dark theme. At the top, there's a search bar, navigation links for Pull requests, Issues, Marketplace, and Explore, and a user profile icon. Below the header, the repository name is displayed with a 'Public' badge, and there are buttons for Pin, Unwatch, Fork, and Star.

The main content area has tabs for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The Code tab is selected, indicated by an orange underline. On the left, there's a sidebar with a message about recent pushes to the `la_liga` branch and a green 'Compare & pull request' button. The main area shows the `main` branch with 2 branches and 0 tags. A list of commits is shown, with one commit from `la_liga` highlighted by a green border:

- `george-boorman Delete .gitignore` b45ce89 16 hours ago 10 commits
- `EDA` Add EDA directory 16 hours ago
- `README.md` Update README.md 5 days ago
- `la_liga_league_home_vs_away_att...` Add la liga attendance plot 16 hours ago
- `requirements.txt` Add seaborn to requirements.txt 16 hours ago

Below the commits, there's a preview of the `README.md` file, which contains the text `soccer_analysis`.

On the right side, there are sections for About (no description, 0 stars, 1 watching, 0 forks), Releases (no releases published, Create a new release), and Packages (no packages published, Publish your first package).

Working with branches



Branch protection rules

- Rules for specific branches
 - Require a pull request before merging
 - Require that pull requests are approved before merging
 - Restrict who can delete a protected branch



¹ Image credit: <https://unsplash.com/@bluzninja>

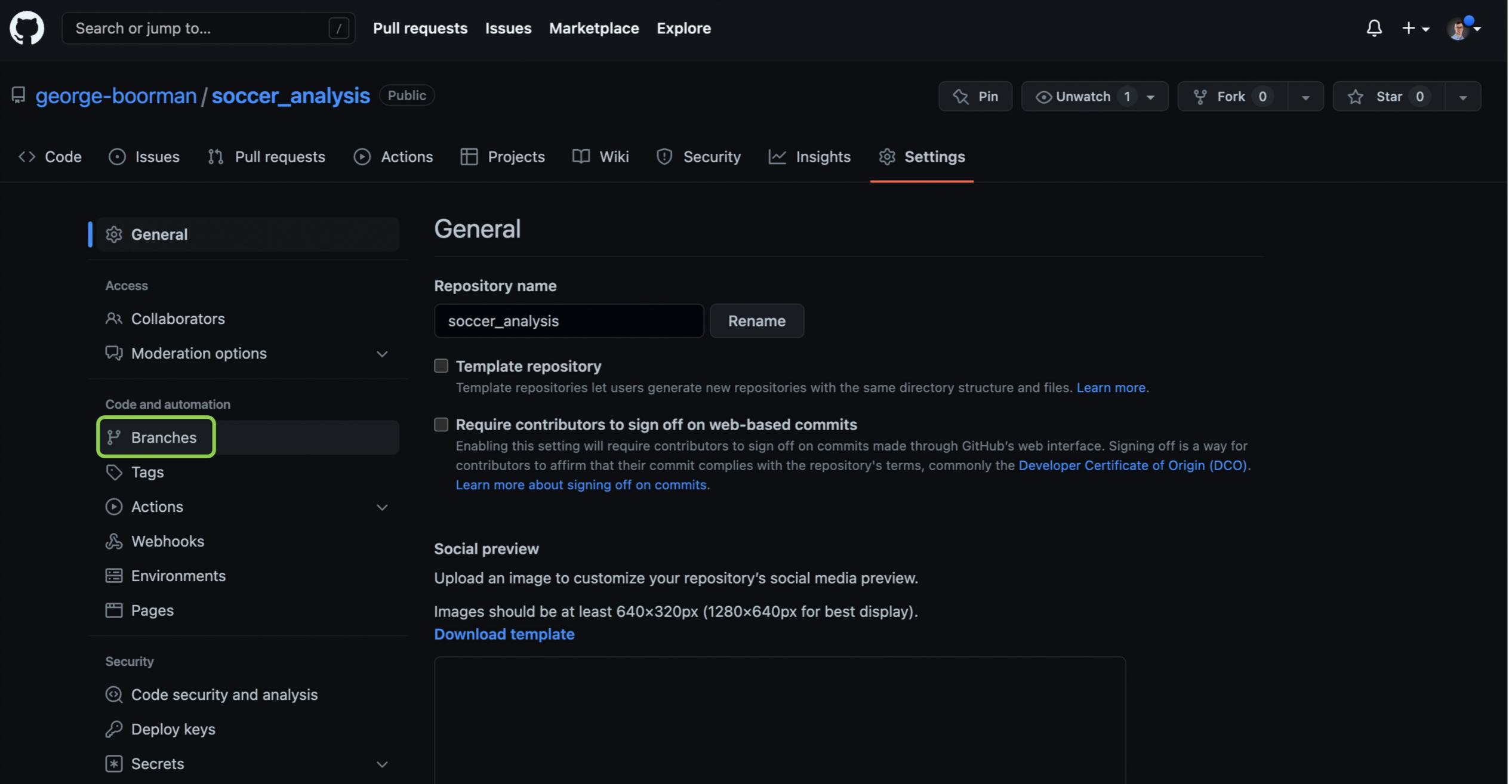
Branch protection rules

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The `Settings` tab is highlighted with a green border. On the left, there's a timeline of recent commits:

- george-boorman Delete .gitignore (b45ce89, 16 hours ago, 10 commits)
- EDA (Add EDA directory, 16 hours ago)
- README.md (Update README.md, 5 days ago)
- la_liga_league_home_vs_away_att... (Add la liga attendance plot, 16 hours ago)
- requirements.txt (Add seaborn to requirements.txt, 16 hours ago)

On the right, there are sections for **About**, **Releases**, and **Packages**. The **About** section notes "No description, website, or topics provided". The **Releases** section says "No releases published" and "Create a new release". The **Packages** section says "No packages published" and "Publish your first package".

Branch protection rules



The screenshot shows the GitHub repository settings for 'george-boorman / soccer_analysis'. The 'General' tab is selected. On the left, there's a sidebar with sections like 'Access', 'Collaborators', 'Moderation options', 'Code and automation' (with 'Branches' highlighted), 'Actions', 'Webhooks', 'Environments', 'Pages', 'Security', 'Code security and analysis', 'Deploy keys', and 'Secrets'. The main area has a 'Repository name' field set to 'soccer_analysis' with a 'Rename' button. It also includes sections for 'Template repository', 'Require contributors to sign off on web-based commits', 'Social preview', and a large empty box for a template image.

Branch protection rules

The screenshot shows the GitHub repository settings page for the repository `george-boorman / soccer_analysis`. The main navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. On the right side of the header are icons for notifications, a new pull request, and user profile.

The repository name `george-boorman / soccer_analysis` is displayed, along with a Public badge. Below the repository name are buttons for Pin, Unwatch (1), Fork (0), and Star (0).

The navigation menu at the top of the page includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The Settings link is underlined, indicating it is the active tab.

The left sidebar contains sections for General, Access, Collaborators, Moderation options, Code and automation (with Branches selected), Tags, Actions, Webhooks, Environments, Pages, Security, Code security and analysis, Deploy keys, and Secrets.

The main content area is titled "Default branch". It explains that the default branch is the "base" branch against which all pull requests and code commits are automatically made, unless you specify a different branch. A dropdown menu shows the current default branch as `main`, with edit and copy icons next to it.

The "Branch protection rules" section is titled "Branch protection rules" and includes a green-outlined "Add rule" button. It provides instructions for defining branch protection rules to disable force pushing, prevent branches from being deleted, and optionally require status checks before merging. It also links to "Learn more".

A message at the bottom states "No branch protection rules defined yet."

Adding rules

The screenshot shows the GitHub settings interface for a repository named "george-boorman / soccer_analysis". The "Settings" tab is selected. On the left, a sidebar lists various settings categories like General, Access, Collaborators, and Code and automation. Under "Code and automation", the "Branches" section is active and highlighted with a blue bar. The main content area is titled "Branch protection rule". It features a form field for "Branch name pattern *" containing the value "protect_main", which is highlighted with a green rounded rectangle. Below this, there's a section titled "Protect matching branches" with three checkboxes:

- Require a pull request before merging**: When enabled, all commits must be made to a non-protected branch and submitted via a pull request before they can be merged into a branch that matches this rule.
- Require status checks to pass before merging**: Choose which [status checks](#) must pass before branches can be merged into a branch that matches this rule. When enabled, commits must first be pushed to another branch, then merged or pushed directly to a branch that matches this rule after status checks have passed.
- Require conversation resolution before merging**: When enabled, all conversations on code must be resolved before a pull request can be merged into a branch that matches this rule. [Learn more](#).

Require a pull request

The screenshot shows the GitHub settings page for the repository `george-boorman/soccer_analysis`. The `Settings` tab is selected. On the left, the `Branches` section is highlighted in the sidebar. The main content area displays a `Branch protection rule` for the pattern `protect_main`. The rule includes three protection conditions:

- Require a pull request before merging**: All commits must be made to a non-protected branch and submitted via a pull request before they can be merged into a branch that matches this rule.
- Require status checks to pass before merging**: Choose which status checks must pass before branches can be merged into a branch that matches this rule. When enabled, commits must first be pushed to another branch, then merged or pushed directly to a branch that matches this rule after status checks have passed.
- Require conversation resolution before merging**: When enabled, all conversations on code must be resolved before a pull request can be merged into a branch that matches this rule. [Learn more](#).

Saving the rule

Rules applied to everyone including administrators

Allow force pushes

Permit force pushes for all users with push access.

Allow deletions

Allow users with push access to delete matching branches.

Create

Let's practice!

GITHUB CONCEPTS

Repo access

GITHUB CONCEPTS

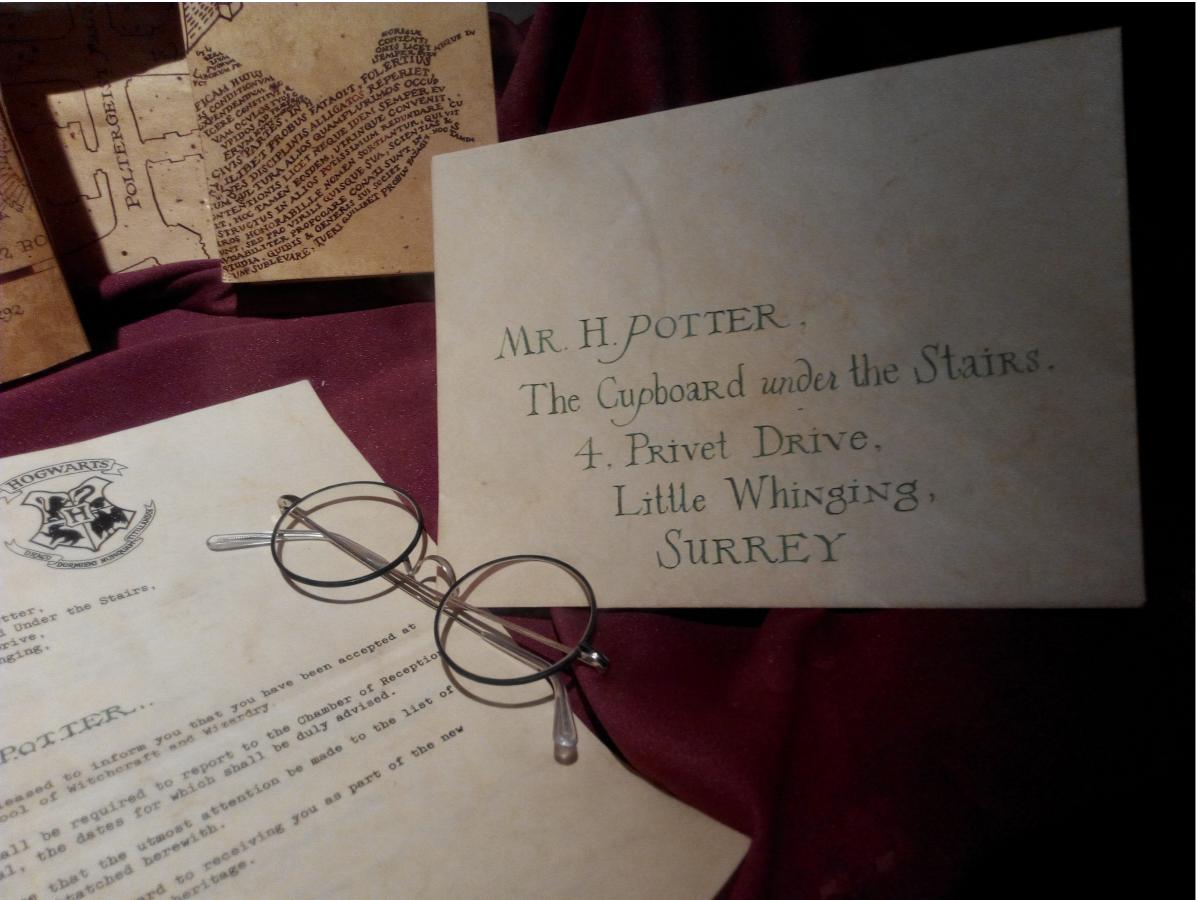


George Boorman

Curriculum Manager, DataCamp

Why restrict access?

- Datasets containing personally identifiable information
- Developing or using commercial products



¹ Image credits: https://unsplash.com/@rae_1991

Bank marketing campaign

Column name	Description
name	Full name
address	Home address
age	Age in years
job	Job type
marital	Marital status
education	Level of education
balance	Bank balance (\$)
housing	Has a mortgage
deposit	Made a deposit as a result of the campaign

Creating a private repo

The screenshot shows the GitHub interface for creating a new repository. At the top, there's a navigation bar with icons for search, pull requests, issues, marketplace, and explore. Below that, a user profile icon and a notification bell are visible.

The main title is "Create a new repository". A sub-instruction says: "A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#)".

The "Repository template" section has a button for "No template ▾".

The "Owner *" field is set to "george-boorman". The "Repository name *" field is set to "bank_marketing", which is highlighted with a green checkmark.

A note below says: "Great repository names are short and memorable. Need inspiration? How about [cautious-octo-winner](#)?"

The "Description (optional)" field is empty.

The "Visibility" section shows two options: "Public" (unchecked) and "Private" (checked). A tooltip for "Private" says: "You choose who can see and commit to this repository." This option is highlighted with a green border.

The "Initialize this repository with:" section includes a note: "Skip this step if you're importing an existing repository." There's a checked checkbox for "Add a README file" with a tooltip: "This is where you can write a long description for your project. [Learn more](#)".

Is it private?

The screenshot shows a GitHub repository page for the user 'george-boorman' with the repository name 'bank_marketing'. The repository is marked as 'Private'. The main navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. On the right side, there are buttons for Unwatch (1), Fork (0), and Star (0). Below the navigation, there are tabs for Code, Issues, Pull requests, Actions, Projects, Security, Insights, and Settings, with 'Code' being the active tab. A dropdown menu for the 'main' branch shows '1 branch' and '0 tags'. The repository contains one commit from 'george-boorman' labeled 'Initial commit' at 'a675666' (16 days ago). A file named 'README.md' is listed with the commit message 'Initial commit' and timestamp '16 days ago'. A preview of the 'README.md' file content shows the text 'bank_marketing'. To the right of the code area, there is an 'About' section which states 'No description, website, or topics provided.' It also lists 'Readme', '0 stars', '1 watching', and '0 forks'. Below this is a 'Releases' section indicating 'No releases published' and a link to 'Create a new release'. At the bottom, there is a 'Packages' section stating 'No packages published' and a link to 'Publish your first package'.

george-boorman / bank_marketing Private

Unwatch 1 ▾ Fork 0 ▾ Star 0 ▾

Code Issues Pull requests Actions Projects Security Insights Settings

main ▾ 1 branch 0 tags

george-boorman Initial commit a675666 16 days ago 1 commit

README.md Initial commit 16 days ago

README.md

bank_marketing

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

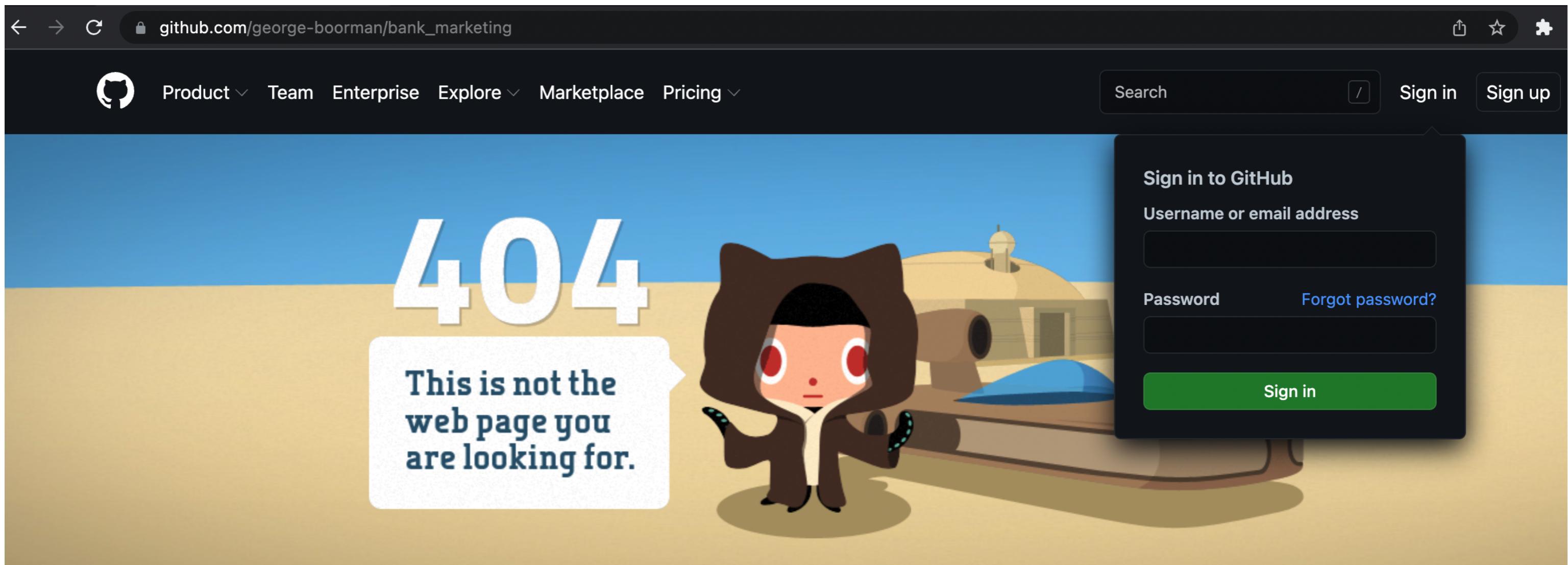
Releases

No releases published Create a new release

Packages

No packages published Publish your first package

Is it private?



Collaboration in a private repo

The screenshot shows a GitHub repository page for `george-boorman/bank_marketing`. The repository is marked as `Private`. The top navigation bar includes links for `Pull requests`, `Issues`, `Marketplace`, and `Explore`. On the right side, there are buttons for `Unwatch` (1), `Fork` (0), and `Star` (0). The main navigation bar below the repository name has tabs for `Code`, `Issues`, `Pull requests`, `Actions`, `Projects`, `Security`, `Insights`, and `Settings`, with `Settings` highlighted by a green box. The left sidebar contains sections for `General`, `Access`, `Collaborators`, `Code and automation`, `Branches`, `Tags`, `Actions`, `Webhooks`, and `Pages`. The `General` section displays the repository name `bank_marketing` with a `Rename` button. It also features two settings: `Template repository` (unchecked) and `Require contributors to sign off on web-based commits` (unchecked). A note explains that template repositories let users generate new repositories with the same directory structure and files, and provides a link to learn more about signing off on commits.

Collaborators

The screenshot shows the GitHub repository settings page for the repository `george-boorman/bank_marketing`. The page is in dark mode. The navigation bar at the top includes links for **Pull requests**, **Issues**, **Marketplace**, and **Explore**. On the far right, there are icons for a bell (Notifications), a plus sign (New repository), and a user profile.

The main content area is titled **Who has access**. On the left, a sidebar lists several sections: **General**, **Access** (which is expanded), **Code and automation**, **Branches**, **Tags**, **Actions**, **Webhooks**, **Pages**, **Security** (expanded), **Code security and analysis**, **Deploy keys**, **Secrets** (expanded), **Integrations**, **GitHub apps**, and **Email notifications**. The **Collaborators** section under **Access** is highlighted with a green border.

The **Who has access** section contains two boxes: **PRIVATE REPOSITORY** (with a padlock icon) and **DIRECT ACCESS** (with a person icon). The **PRIVATE REPOSITORY** box states: "Only those with access to this repository can view it." and has a **Manage** link. The **DIRECT ACCESS** box states: "0 collaborators have access to this repository. Only you can contribute to this repository."

The **Manage access** section features a central icon of a person connected to a network of circles. Below it, the text reads: "You haven't invited any collaborators yet". A prominent green button labeled **Add people** is centered at the bottom of this section.

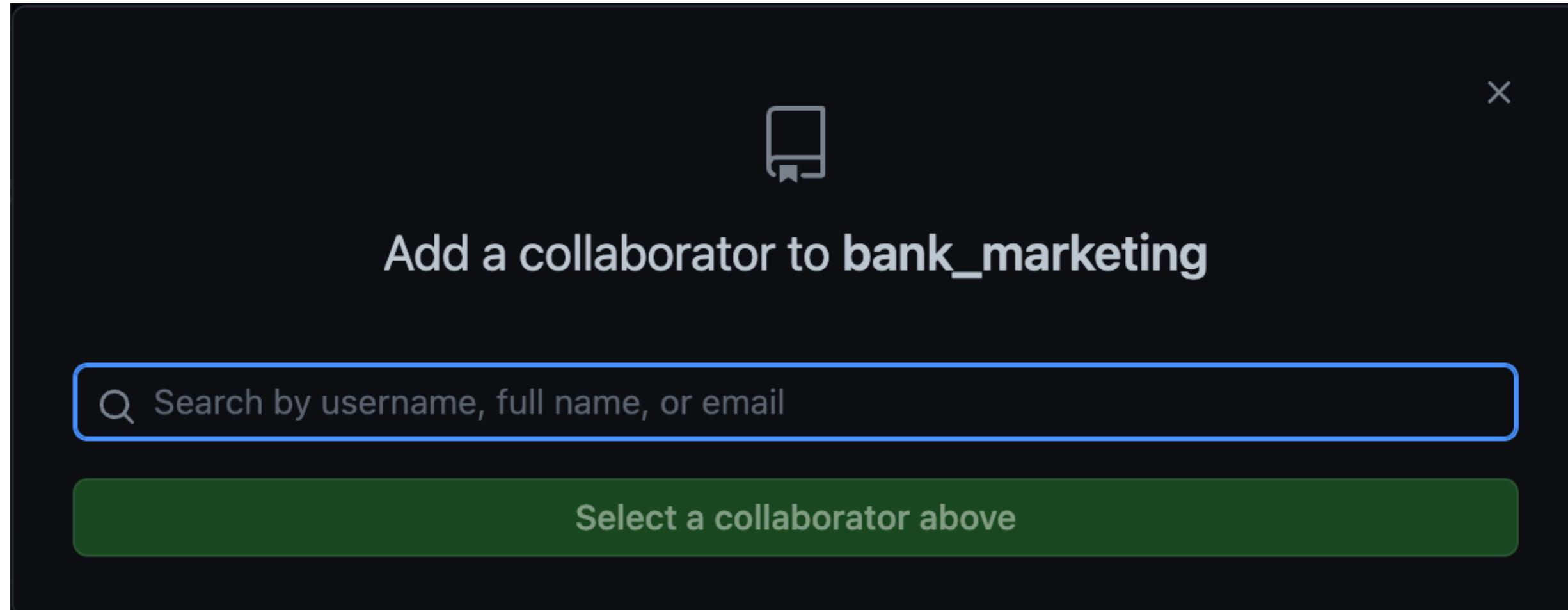
Collaborators

The screenshot shows the GitHub repository settings page for the repository `george-boorman/bank_marketing`. The repository is private, as indicated by the "Private" badge. The "Settings" tab is selected in the navigation bar.

The left sidebar contains sections for General, Access (with "Collaborators" selected), Code and automation, Branches, Tags, Actions, Webhooks, Pages, Security, Code security and analysis, Deploy keys, Secrets, Integrations, GitHub apps, and Email notifications.

The main content area is titled "Who has access". It shows two sections: "PRIVATE REPOSITORY" and "DIRECT ACCESS". The PRIVATE REPOSITORY section states: "Only those with access to this repository can view it." and includes a "Manage" link. The DIRECT ACCESS section states: "0 collaborators have access to this repository. Only you can contribute to this repository." A large button labeled "Manage access" is centered below these sections. Below this button, there is a graphic of a person icon with a lock and the text "You haven't invited any collaborators yet". A green "Add people" button is located at the bottom of this section.

Adding a collaborator



Adding a collaborator

The screenshot shows the GitHub settings interface for a repository named "bank_marketing". The left sidebar lists various settings categories: General, Access, Collaborators (which is selected and highlighted in blue), Code and automation, Branches, Tags, Actions, Webhooks, Pages, Security, Code security and analysis, Deploy keys, Secrets, and Integrations (GitHub apps and Email notifications). A central modal window is open with the title "Add a collaborator to bank_marketing". It contains a search bar with the placeholder "Search by username, full name, or email" and a green button below it that says "Select a collaborator above". Below the modal, the "Manage access" section displays a message: "You haven't invited any collaborators yet" next to a small user icon. At the bottom of this section is a green "Add people" button.

Let's practice!

GITHUB CONCEPTS

Personal Access Tokens (PAT)

GITHUB CONCEPTS



George Boorman

Curriculum Manager, DataCamp

Authentication

- Can use Git in the terminal to interact with GitHub

```
git clone https://github.com/george-boorman/bank_marketing
```

Username for 'https://github.com': george-boorman

Password for 'https://george-boorman@github.com':

Authentication failed

```
remote: Support for password authentication was removed on August 13, 2021.  
remote: Please see https://docs.github.com/en/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls for information on currently recommended modes of authentication.  
fatal: Authentication failed for 'https://github.com/george-boorman/bank_marketing/'
```

GitHub Docs

The screenshot shows the GitHub Docs interface. On the left, there's a sidebar with navigation links: 'Writing on GitHub', 'Importing your projects', 'Explore projects', and 'Getting started with Git'. Under 'Getting started with Git', there are two items: 'Set your username' and 'Caching credentials'. The main content area has a header 'Cloning with HTTPS URLs'. Below the header, the text reads: 'The https:// clone URLs are available on all repositories, regardless of visibility. https:// clone URLs work even if you are behind a firewall or proxy.' Further down, it says: 'When you git clone, git fetch, git pull, or git push to a remote repository using HTTPS URLs on the command line, Git will ask for your GitHub username and password. When Git prompts you for your password, enter your personal access token (PAT). Alternatively, you can use a credential helper like [Git Credential Manager](#). Password-based authentication for Git has been removed in favor of more secure authentication methods. For more information, see "[Creating a personal access token](#)."

¹ <https://docs.github.com/en/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls>

What is a Personal Access Token?

- Personal Access Token (PAT)
 - An alternative to using passwords for authentication in the terminal
 - Required since August 2021 instead of passwords
 - More secure
- Not needed in GitHub
 - Only to access a remote repo using the terminal

¹ <https://docs.github.com/en/authentication/keeping-your-account-and-data-secure/creating-a-personal-access-token>

Creating a PAT

The screenshot shows a GitHub profile page for a user named George Boorman (george-boorman). The profile picture is a circular portrait of a smiling man with glasses. Below the picture, the name "George Boorman" and the handle "george-boorman" are displayed, along with a "Edit profile" button. The main content area shows a "Popular repositories" section with one repository listed: "soccer_analysis" (Public). Below this, a chart displays "1,040 contributions in the last year" across months from September to July. A tooltip "Learn how we count contributions" is visible near the chart. On the right side, a sidebar lists various GitHub features: "Signed in as george-boorman", "Set status", "Your profile", "Your repositories", "Your codespaces", "Your organizations", "Your projects", "Your stars", "Your gists", "Upgrade", "Feature preview" (with a blue dot indicating it's active), "Help", and "Settings". The "Settings" button is highlighted with a green border.

Creating a PAT

The screenshot shows the GitHub Profile Settings page. On the left, a sidebar lists various profile sections: Code, planning, and automation (Repositories, Packages, GitHub Copilot, Pages, Saved replies); Security (Code security and analysis); Integrations (Applications, Scheduled reminders); Archives (Security log, Sponsorship log); and Developer settings. The 'Developer settings' option is highlighted with a green border. The main content area is titled 'Contributions & Activity' and contains a checkbox for 'Make profile private and hide activity' (Beta). A note explains that enabling this will hide contributions and activity from the GitHub profile and social features like followers, stars, feeds, leaderboards, and releases.

Code, planning, and automation

- Repositories
- Packages
- GitHub Copilot
- Pages
- Saved replies

Security

- Code security and analysis

Integrations

- Applications
- Scheduled reminders

Archives

- Security log
- Sponsorship log

<> Developer settings

URL

Twitter username

Company

You can @mention your company's GitHub organization to link it.

Location

All of the fields on this page are optional and can be deleted at any time, and by filling them out, you're giving us consent to share this data wherever your user profile appears. Please see our [privacy statement](#) to learn more about how we use this information.

Update profile

Contributions & Activity

Make profile private and hide activity Beta

Enabling this will hide your contributions and activity from your GitHub profile and from social features like followers, stars, feeds, leaderboards and releases.

Creating a PAT

The screenshot shows the GitHub developer settings interface. At the top, there is a navigation bar with links for Pull requests, Issues, Marketplace, and Explore. Below the navigation bar, the path "Settings / Developer settings" is visible. On the left, a sidebar contains three options: GitHub Apps, OAuth Apps, and Personal access tokens, with the last one being highlighted by a green border. The main content area is titled "GitHub Apps" and contains a sub-section titled "Personal access tokens". This section includes a call-to-action text: "Want to build something that integrates with and extends GitHub? Register a new GitHub App to get started developing on the GitHub API. You can also read more about building GitHub Apps in our developer documentation." A "New GitHub App" button is located in the top right corner of this sub-section.

Creating a PAT

The screenshot shows the GitHub developer settings interface. At the top, there is a navigation bar with the GitHub logo, a search bar, and links for Pull requests, Issues, Marketplace, and Explore. To the right of the search bar is a notification bell icon, a plus sign for creating new items, and a user profile icon.

The main area is titled "Settings / Developer settings". On the left, there is a sidebar with three options: "GitHub Apps", "OAuth Apps", and "Personal access tokens", which is highlighted with a blue vertical bar. The central part of the screen is titled "Personal access tokens" and contains the sub-instruction "Tokens you have generated that can be used to access the GitHub API.". At the top right of this section are two buttons: "Generate new token" (which is highlighted with a green rounded rectangle) and "Revoke all".

Creating a PAT

The screenshot shows the GitHub developer settings interface. In the top navigation bar, there is a search bar, a pull requests button, an issues button, a marketplace button, an explore button, a notifications icon, a plus sign for creating new items, and a user profile icon.

The main navigation on the left includes links for GitHub Apps, OAuth Apps, and Personal access tokens. The "Personal access tokens" link is selected, and the page title is "New personal access token".

The central content area contains a note about what personal access tokens are used for, followed by a "Note" section where a token name is entered. A dropdown menu for expiration is shown, indicating the token will expire in 30 days on Fri, Oct 7 2022. A green arrow points from the word "Expiration" at the bottom left to the dropdown menu. Another green arrow points from the word "Note" at the bottom right to the note input field.

Note

bank_marketing_PAT

What's this token for?

Expiration *

30 days

The token will expire on Fri, Oct 7 2022

Expiration

Note

Creating a PAT

The screenshot shows the GitHub developer settings interface. On the left sidebar, there are links for GitHub Apps, OAuth Apps, and Personal access tokens. The main area is titled "New personal access token". It includes a note about what personal access tokens are, a note field containing "bank_marketing_PAT", a question about what the token is for, an expiration dropdown set to "30 days" (expiring Fri, Oct 7 2022), and a section for selecting scopes. The "repo" scope is checked and highlighted with a green border. Other available scopes include repo:status, repo_deployment, public_repo, repo:invite, and security_events.

Search or jump to... / Pull requests Issues Marketplace Explore

Settings / Developer settings

GitHub Apps OAuth Apps Personal access tokens

New personal access token

Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to [authenticate to the API over Basic Authentication](#).

Note

bank_marketing_PAT

What's this token for?

Expiration *

30 days The token will expire on Fri, Oct 7 2022

Select scopes

Scopes define the access for personal tokens. [Read more about OAuth scopes](#).

<input checked="" type="checkbox"/> repo	Full control of private repositories
<input checked="" type="checkbox"/> repo:status	Access commit status
<input checked="" type="checkbox"/> repo_deployment	Access deployment status
<input checked="" type="checkbox"/> public_repo	Access public repositories
<input checked="" type="checkbox"/> repo:invite	Access repository invitations
<input checked="" type="checkbox"/> security_events	Read and write security events

Creating a PAT

<input type="checkbox"/> write:discussion	Read and write team discussions
<input type="checkbox"/> read:discussion	Read team discussions
<input type="checkbox"/> admin:enterprise	Full control of enterprises
<input type="checkbox"/> manage_runners:enterprise	Manage enterprise runners and runner groups
<input type="checkbox"/> manage_billing:enterprise	Read and write enterprise billing data
<input type="checkbox"/> read:enterprise	Read enterprise profile data
<input type="checkbox"/> project	Full control of projects
<input type="checkbox"/> read:project	Read access of projects
<input type="checkbox"/> admin:gpg_key	Full control of public user GPG keys
<input type="checkbox"/> write:gpg_key	Write public user GPG keys
<input type="checkbox"/> read:gpg_key	Read public user GPG keys
<input type="checkbox"/> admin:ssh_signing_key	Full control of public user SSH signing keys
<input type="checkbox"/> write:ssh_signing_key	Write public user SSH signing keys
<input type="checkbox"/> read:ssh_signing_key	Read public user SSH signing keys

[Generate token](#) [Cancel](#)

Using the PAT

The screenshot shows the GitHub developer settings page with the 'Personal access tokens' tab selected. The page title is 'Personal access tokens'. There are two buttons at the top right: 'Generate new token' and 'Revoke all'. A note below the tokens says 'Tokens you have generated that can be used to access the GitHub API.' A callout box highlights the instruction 'Make sure to copy your personal access token now. You won't be able to see it again!'. A single token is listed with a green checkmark, the value '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', and a blue copy icon. A red 'Delete' button is to the right.

Search or jump to... / Pull requests Issues Marketplace Explore

Settings / Developer settings

GitHub Apps OAuth Apps Personal access tokens

Personal access tokens

Generate new token Revoke all

Tokens you have generated that can be used to access the GitHub API.

Make sure to copy your personal access token now. You won't be able to see it again!

✓ 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 ⚡ Delete

Using the PAT

A screenshot of the GitHub 'Personal access tokens' page. The page title is 'Personal access tokens'. It shows a single token entry:

- Token:** 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 (with a copy icon)
- Action:** Delete (button)

A green arrow points from the word 'PAT' in the sidebar to the token entry.

- Don't share a PAT!

Using the PAT

```
git clone https://github.com/george-boorman/bank_marketing  
Cloning into 'bank_marketing'...  
Username for 'https://github.com': george-boorman  
Password for 'https://george-boorman@github.com':
```

```
remote: Enumerating objects: 3, done.  
remote: Counting objects: 100% (3/3), done.  
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
```

```
ls
```

```
bank_marketing
```

Let's practice!

GITHUB CONCEPTS