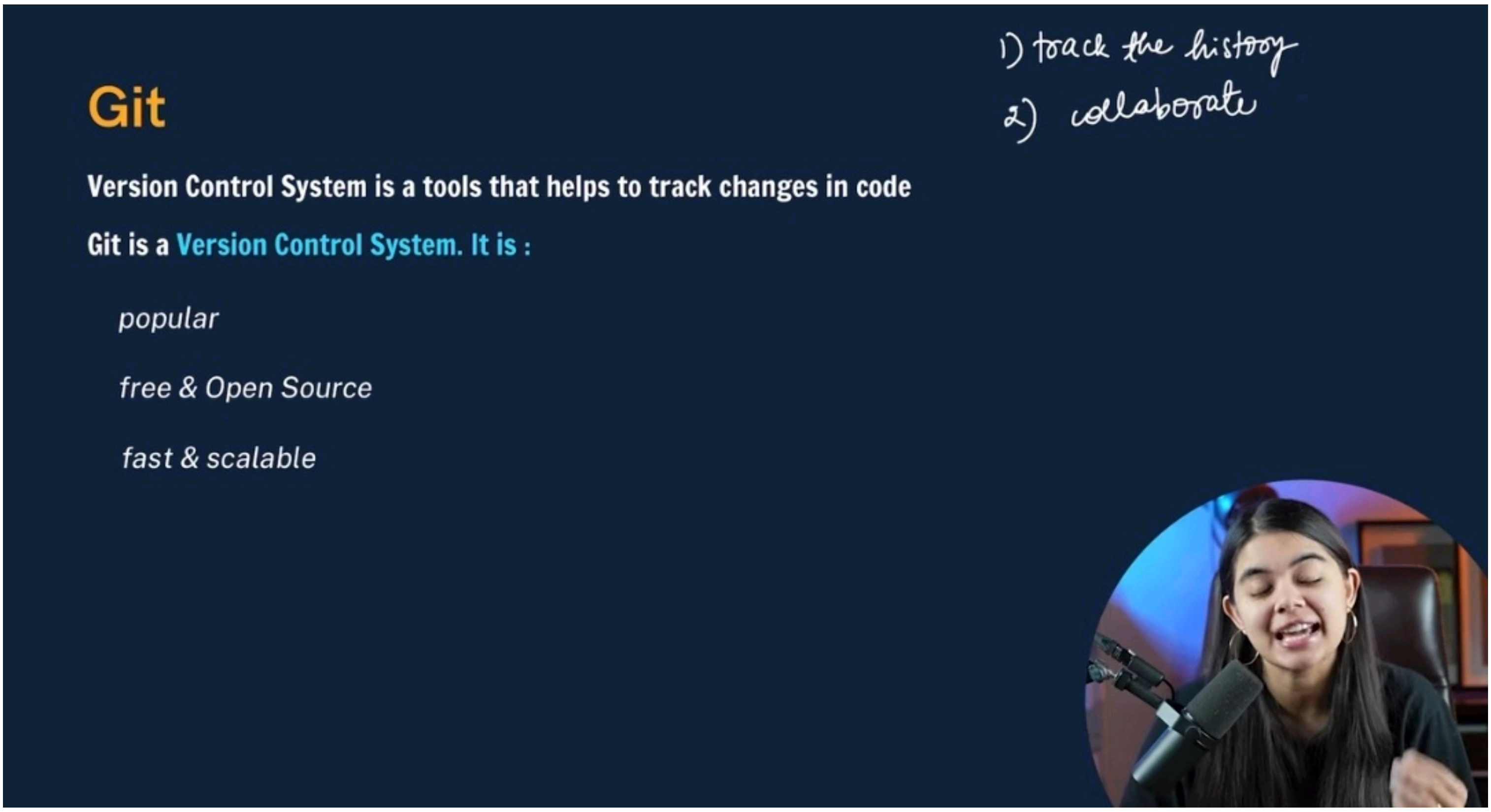


Git

1) track the history

2) collaborate

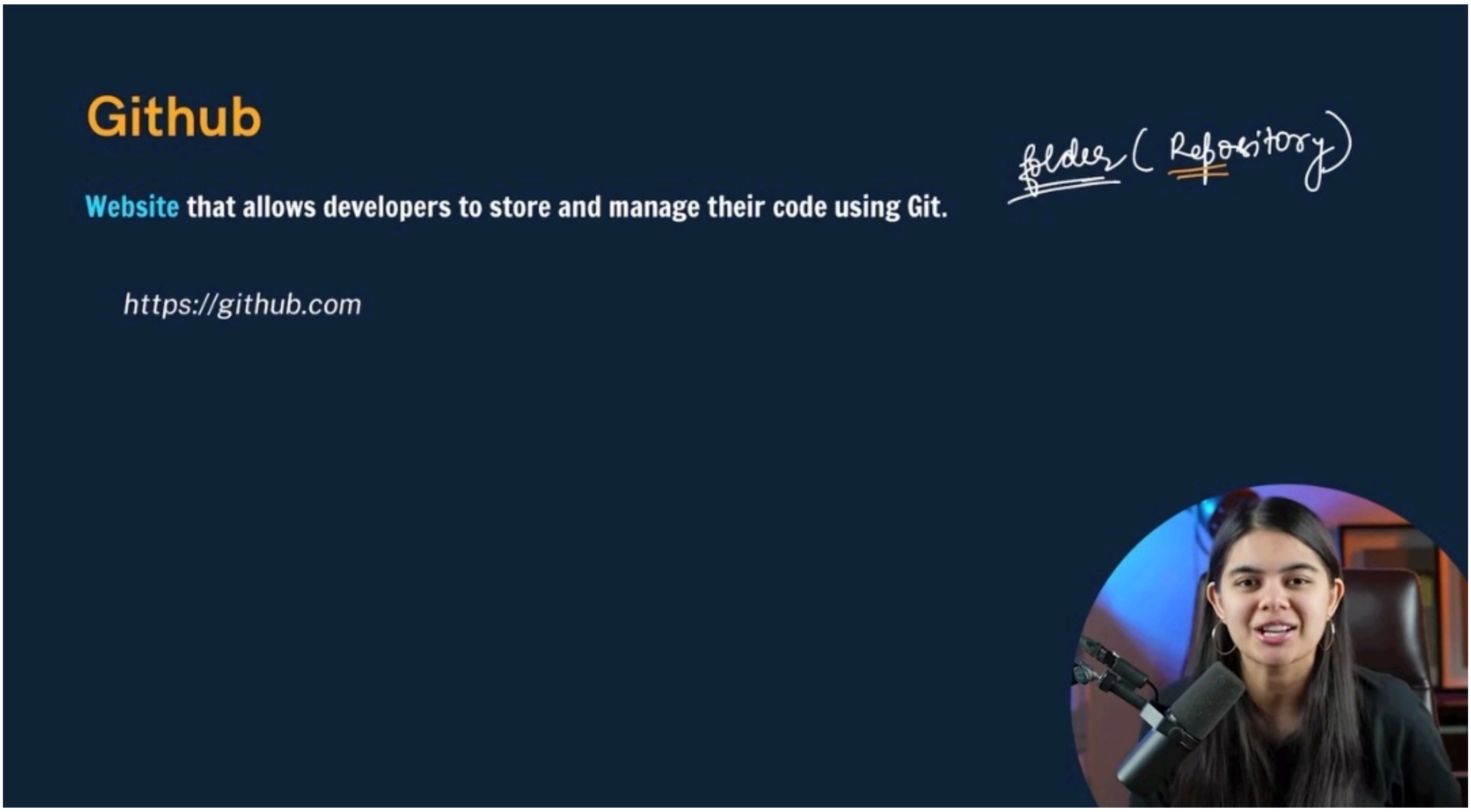
Version Control System is a tools that helps to track changes in code

Git is a Version Control System. It is :

popular

free & Open Source

fast & scalable

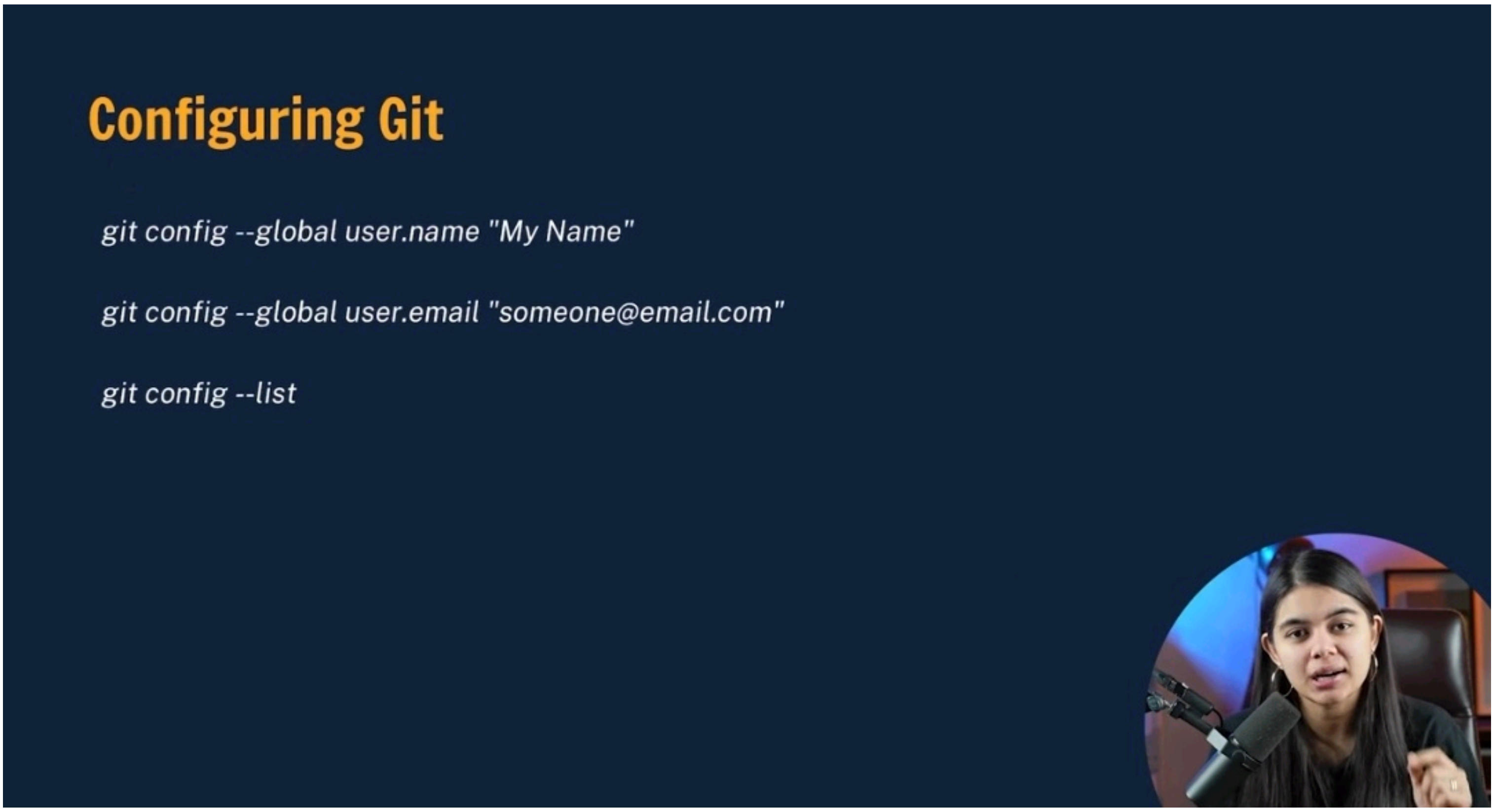


Github

folder (Repository)

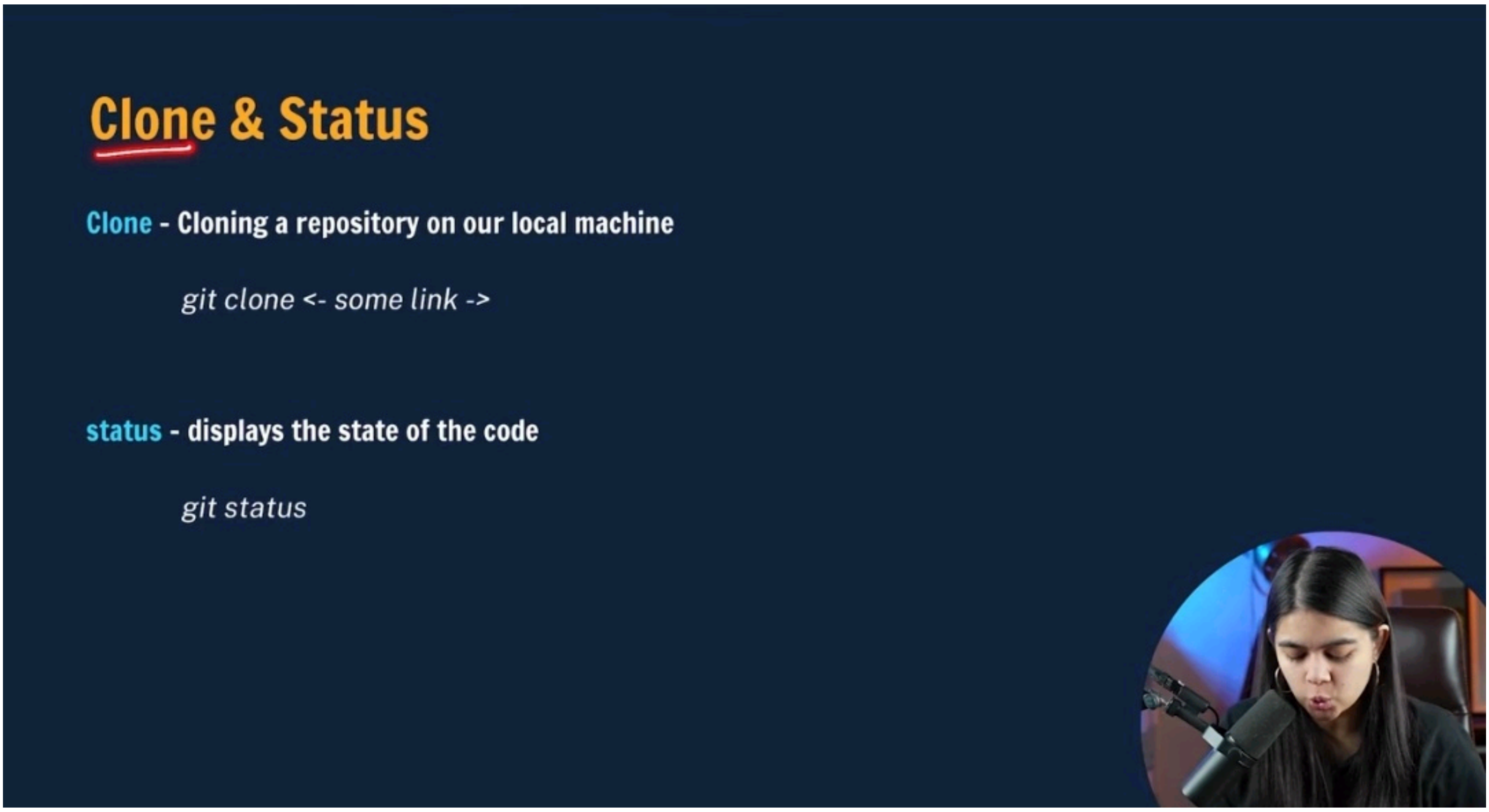
Website that allows developers to store and manage their code using Git.

https://github.com



Configuring Git

```
git config --global user.name "My Name"

git config --global user.email "someone@email.com"

git config --list
```



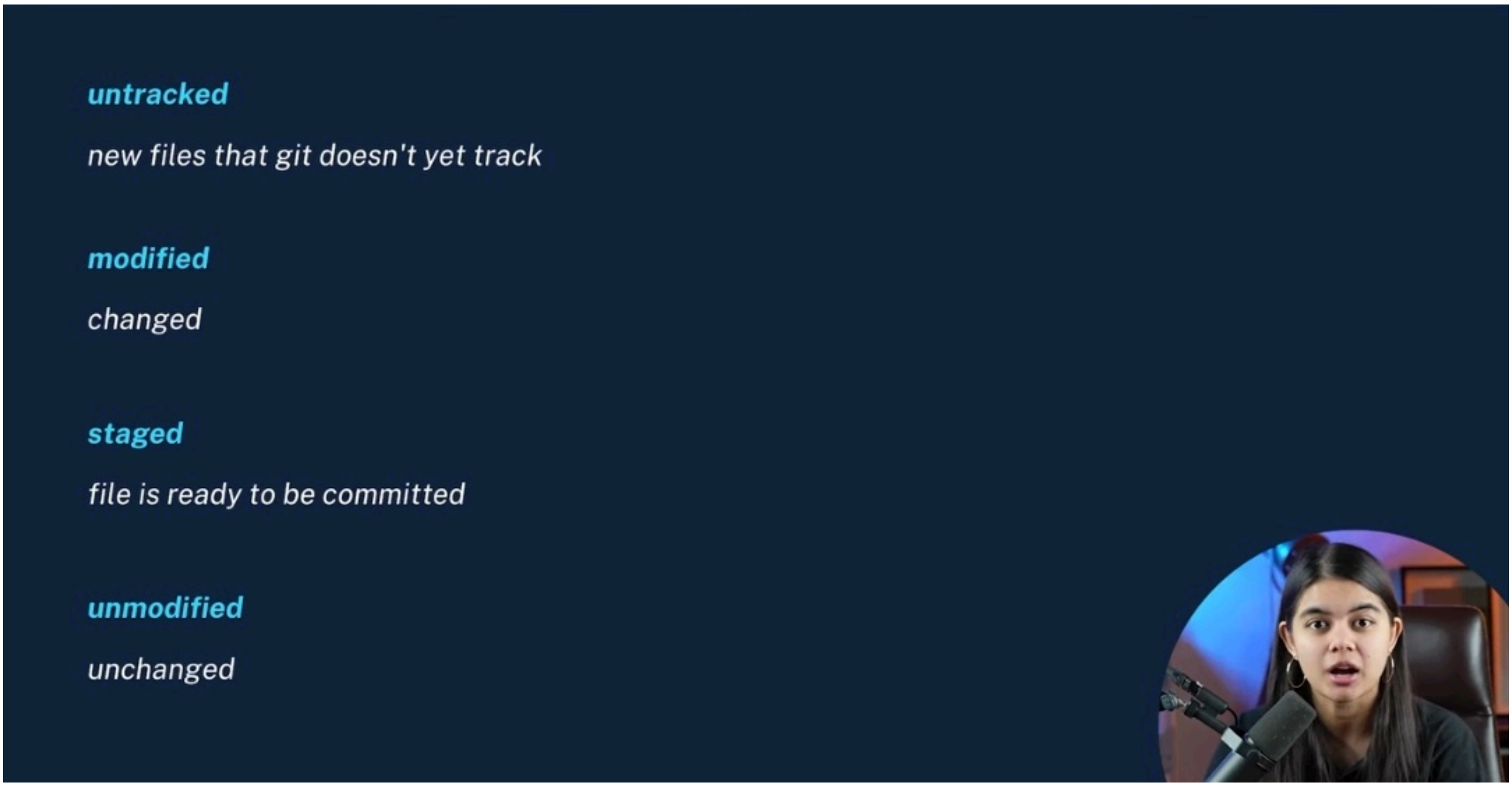
Clone & Status

Clone - Cloning a repository on our local machine

```
git clone <- some link ->
```

status - displays the state of the code

```
git status
```



untracked

new files that git doesn't yet track

modified

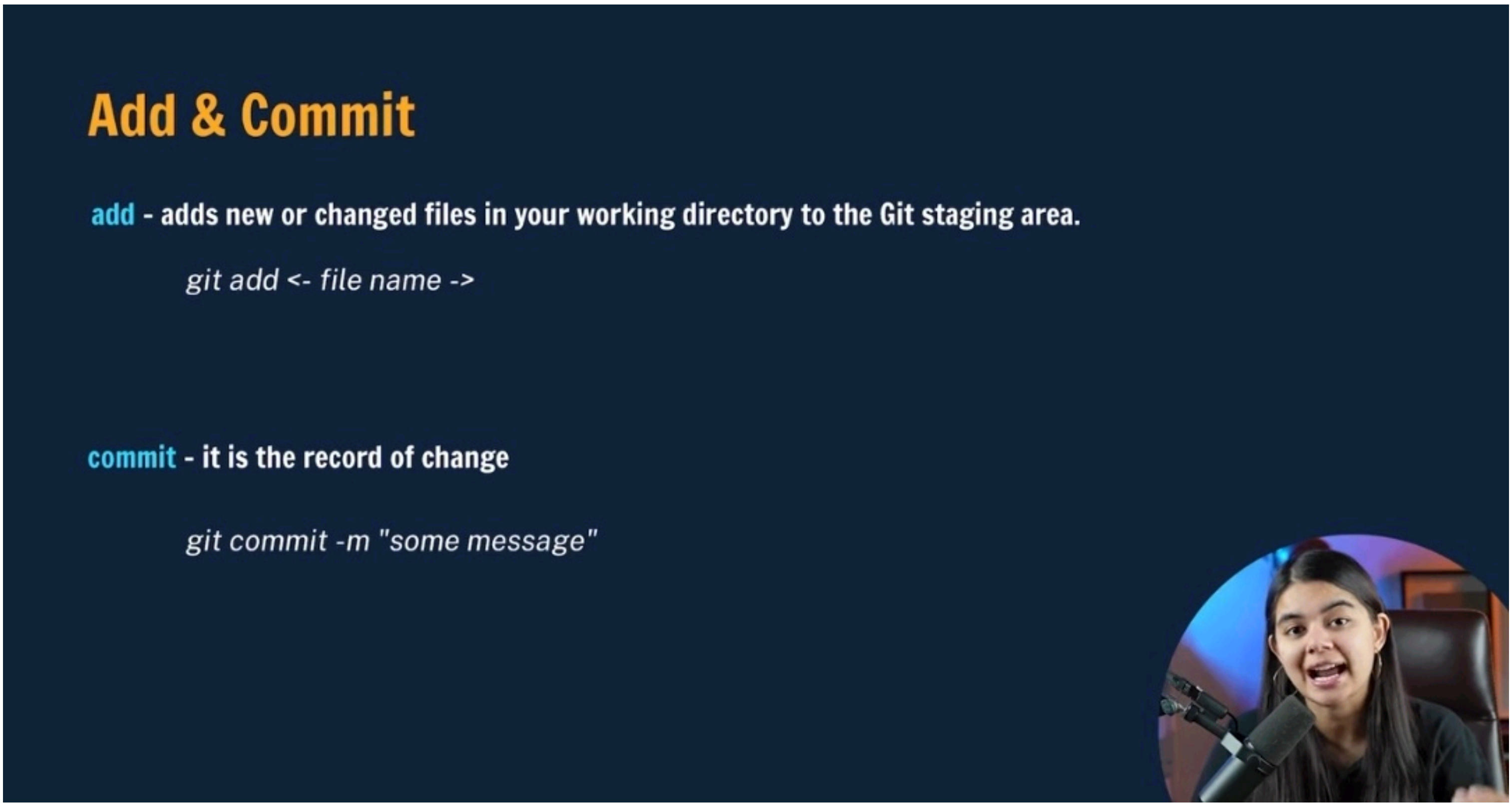
changed

staged

file is ready to be committed

unmodified

unchanged



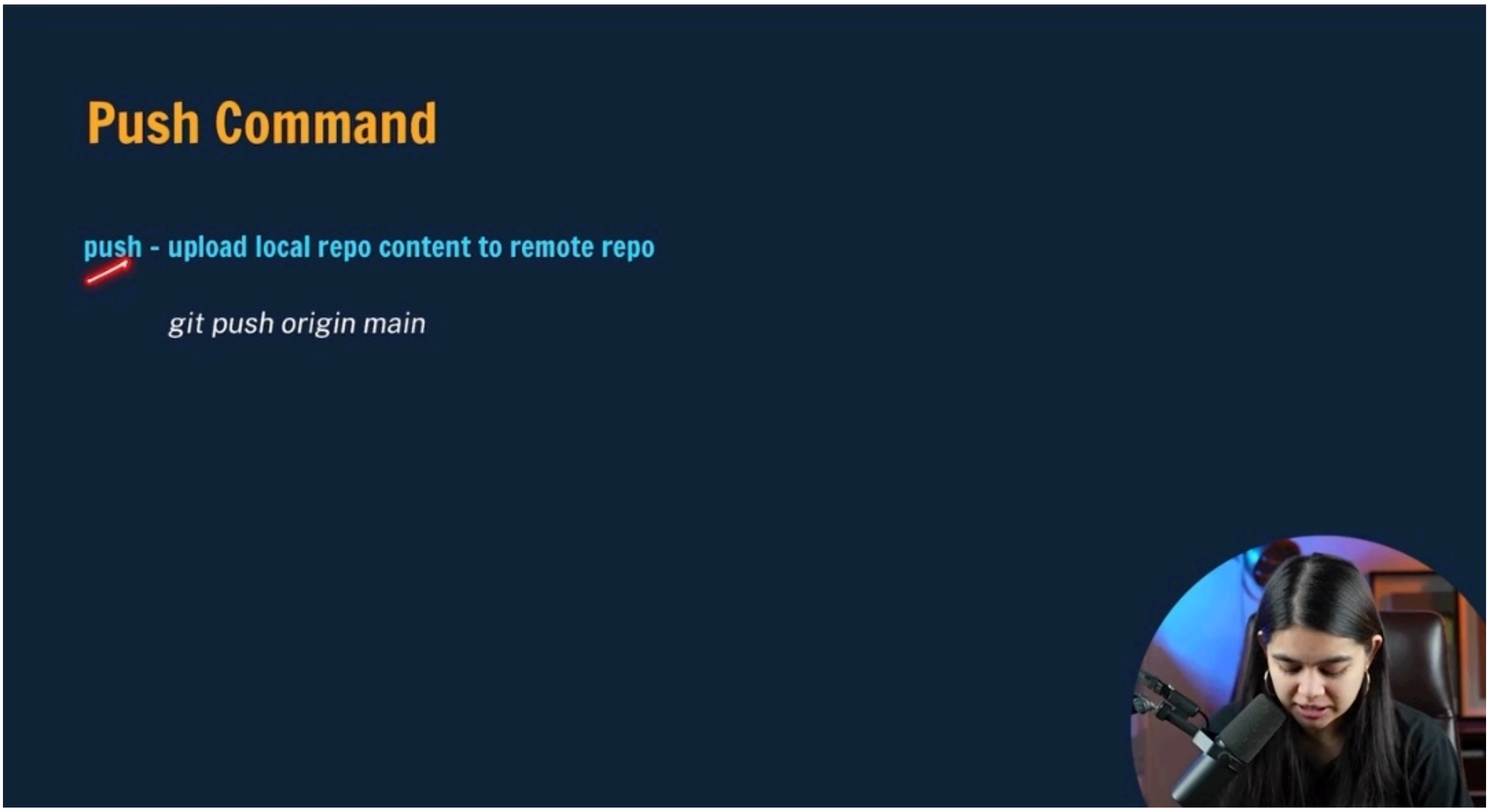
Add & Commit

add - adds new or changed files in your working directory to the Git staging area.

```
git add <- file name ->
```

commit - it is the record of change

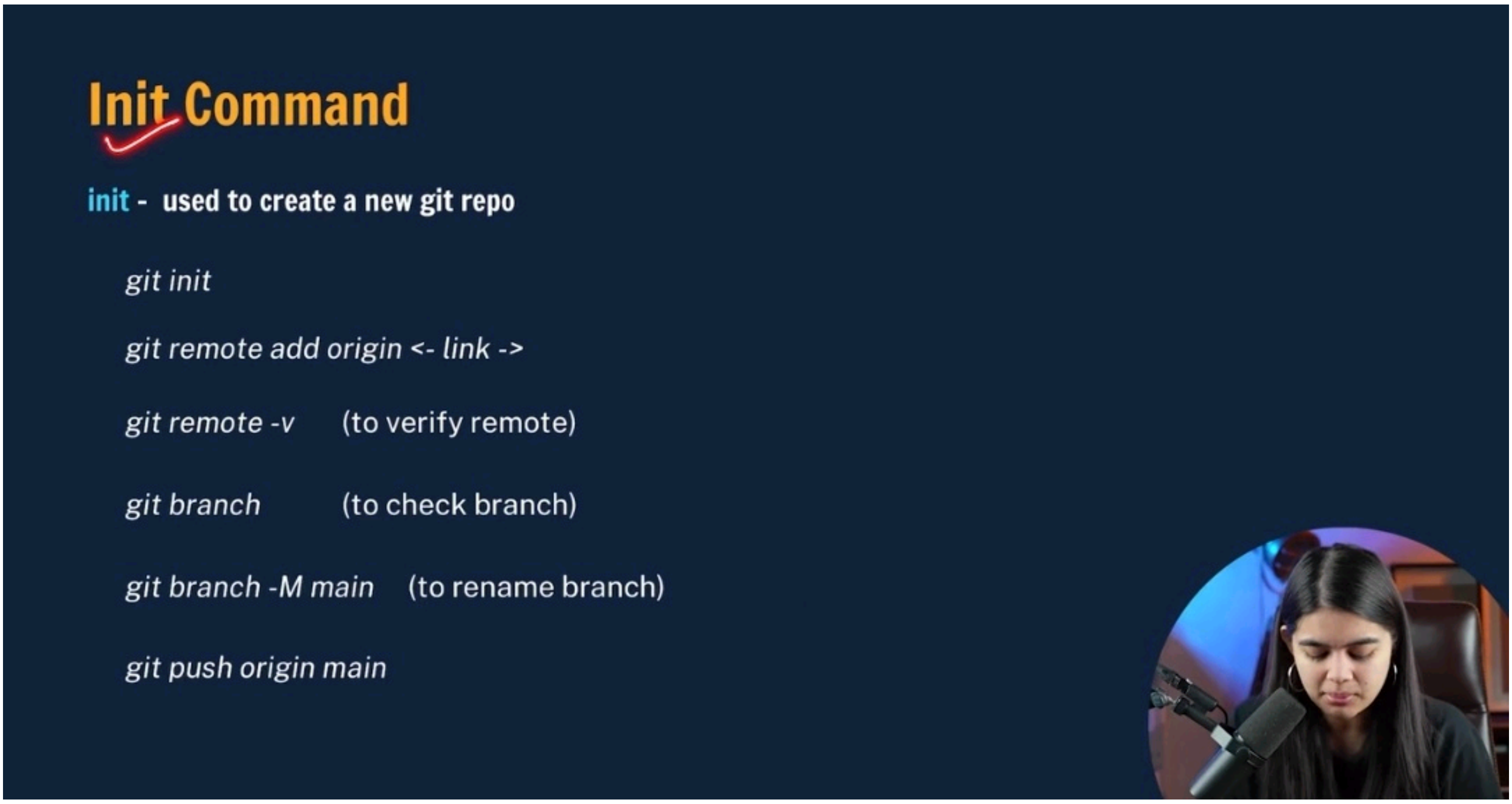
```
git commit -m "some message"
```



Push Command

push - upload local repo content to remote repo

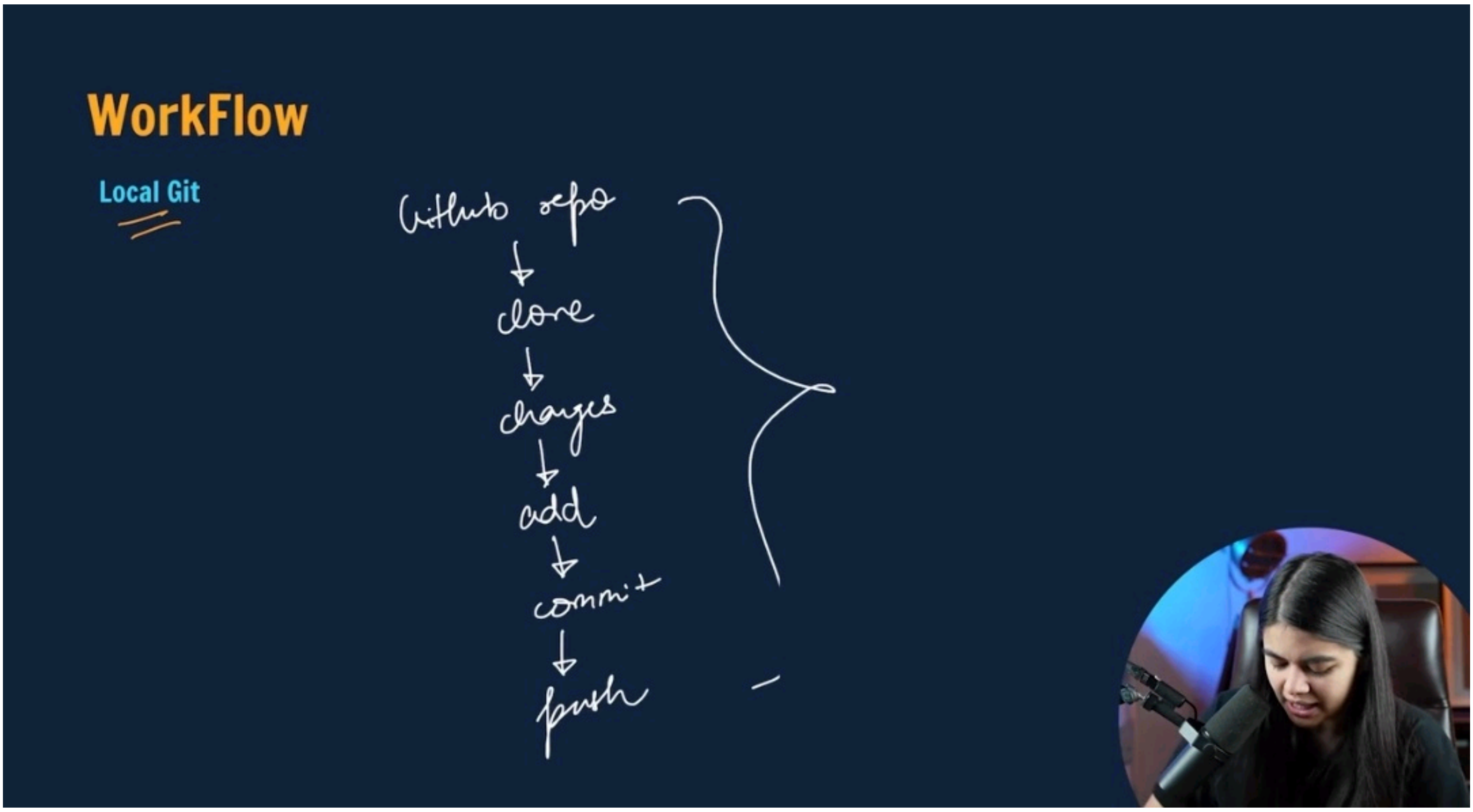
```
git push origin main
```



Init Command

init - **used to create a new git repo**

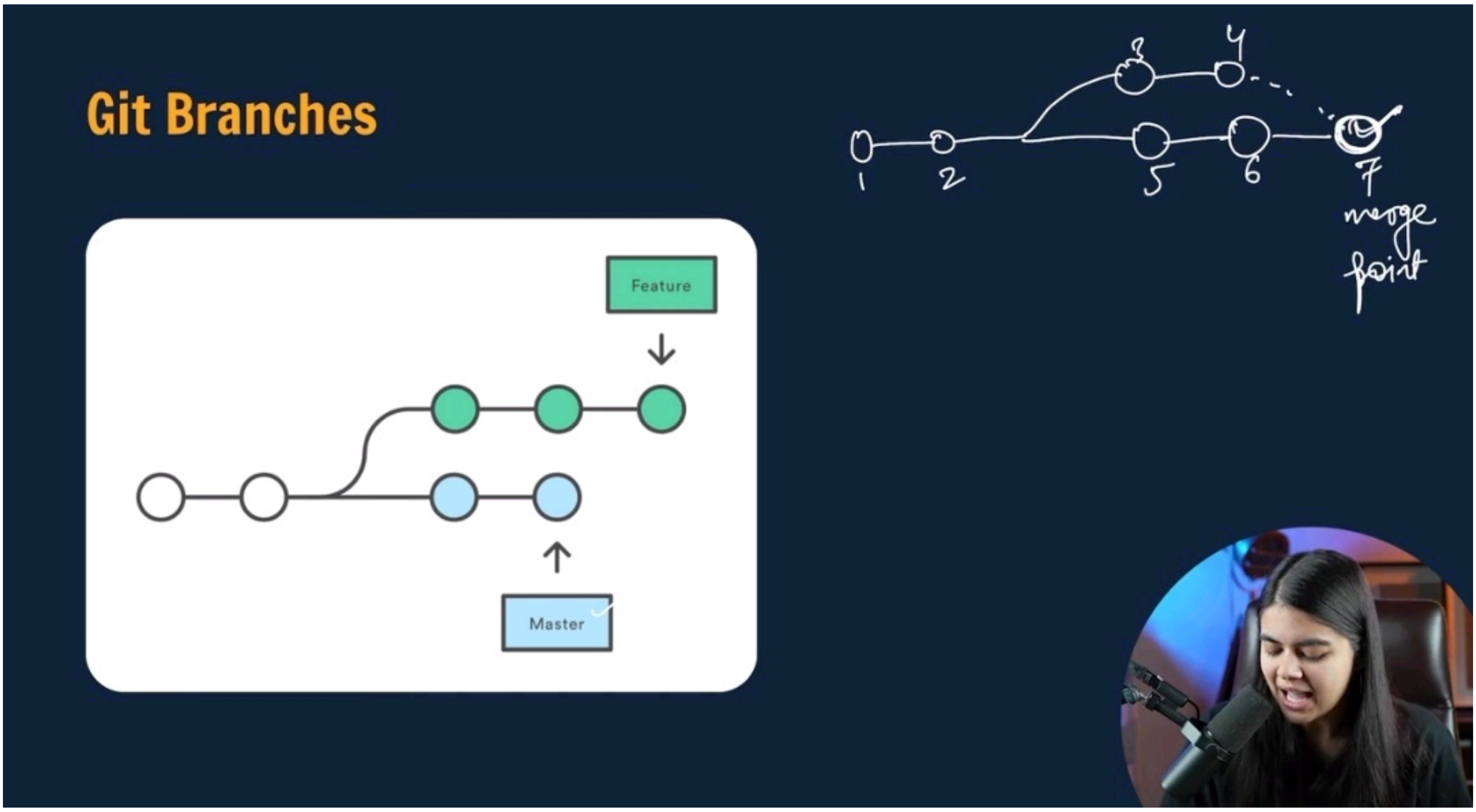
```
git init

git remote add origin <- link ->

git remote -v        (to verify remote)

git branch           (to check branch)

git branch -M main    (to rename branch)

git push origin main
```



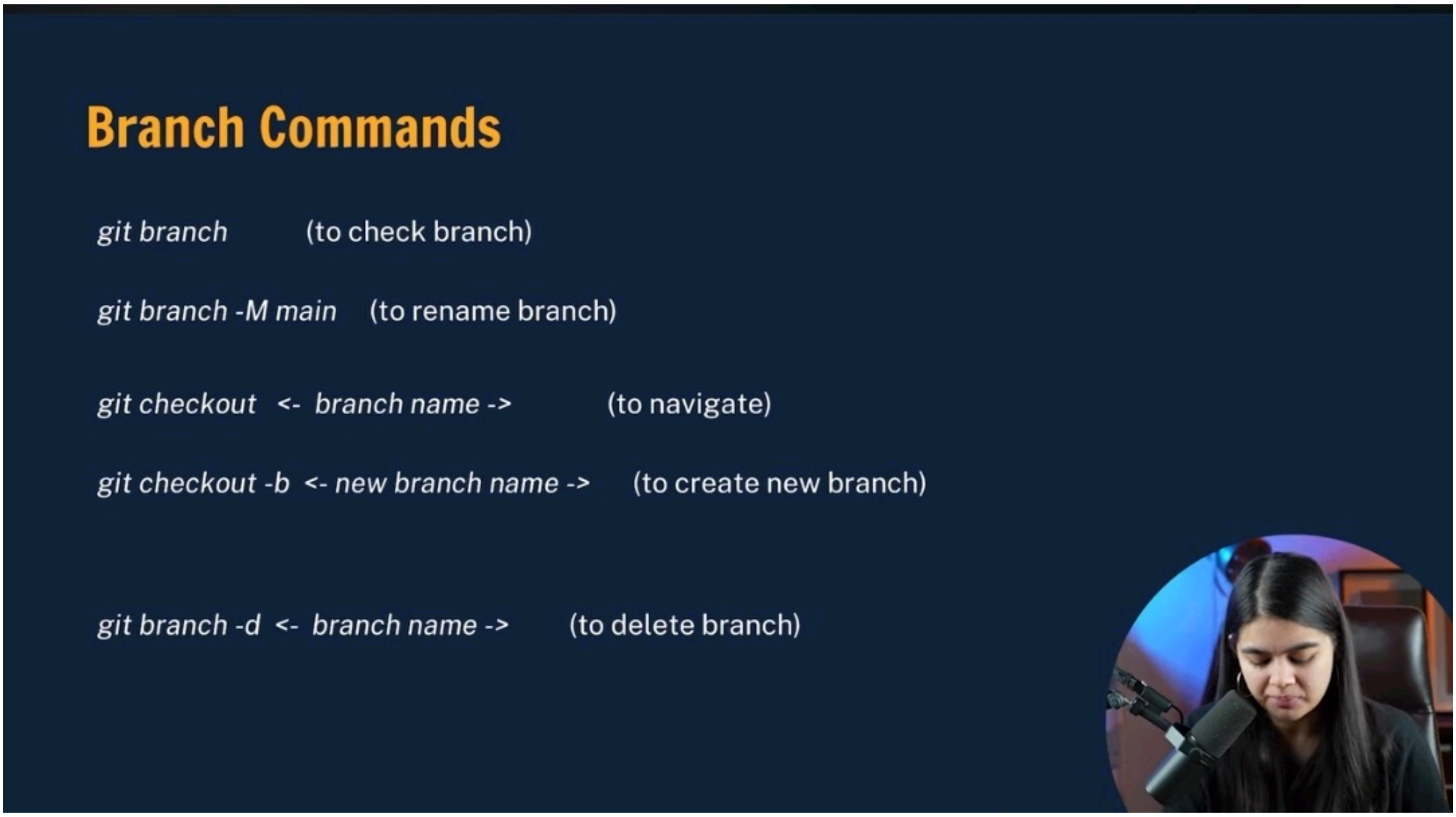
WorkFlow

Local Git

Github repo
↓
clone
↓
changes
↓
add
↓
commit
↓
push

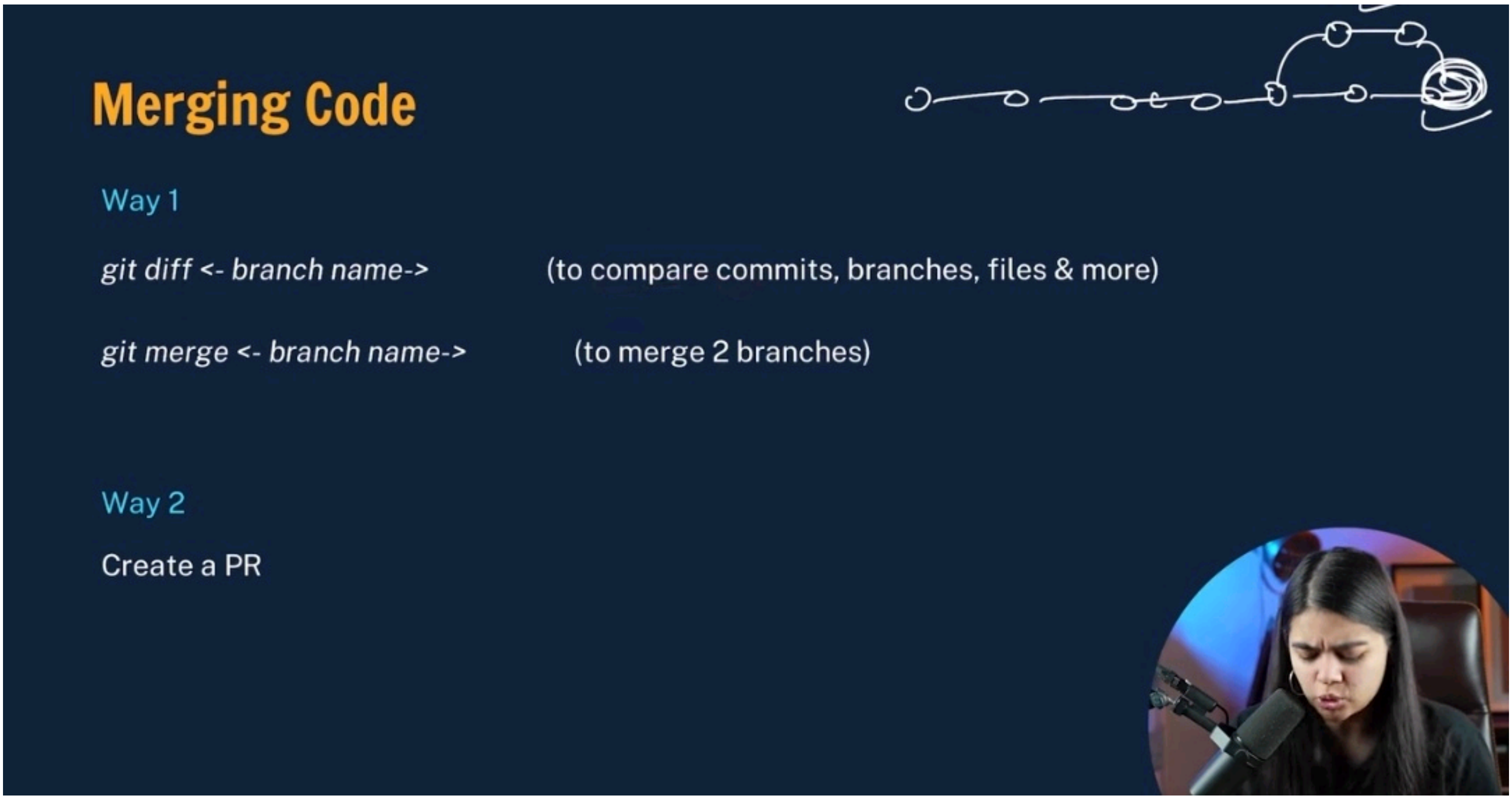


Git Branches



Branch Commands

```
git branch                        (to check branch)

git branch -M main                (to rename branch)

git checkout  <-  branch name ->           (to navigate)

git checkout -b  <- new branch name ->     (to create new branch)


git branch -d  <-  branch name ->          (to delete branch)
```



Merging Code

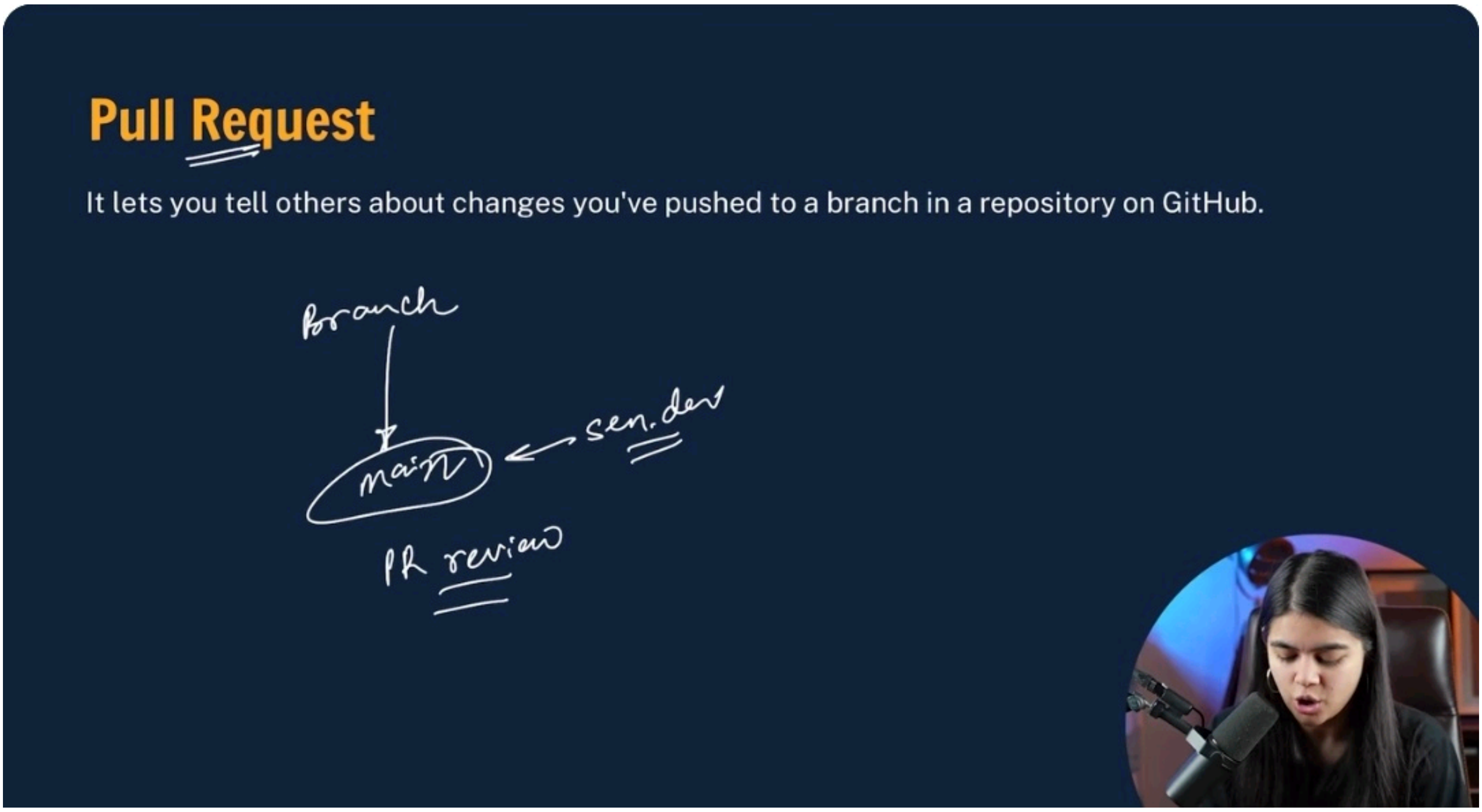
Way 1

git diff <- branch name-> (to compare commits, branches, files & more)

git merge <- branch name-> (to merge 2 branches)

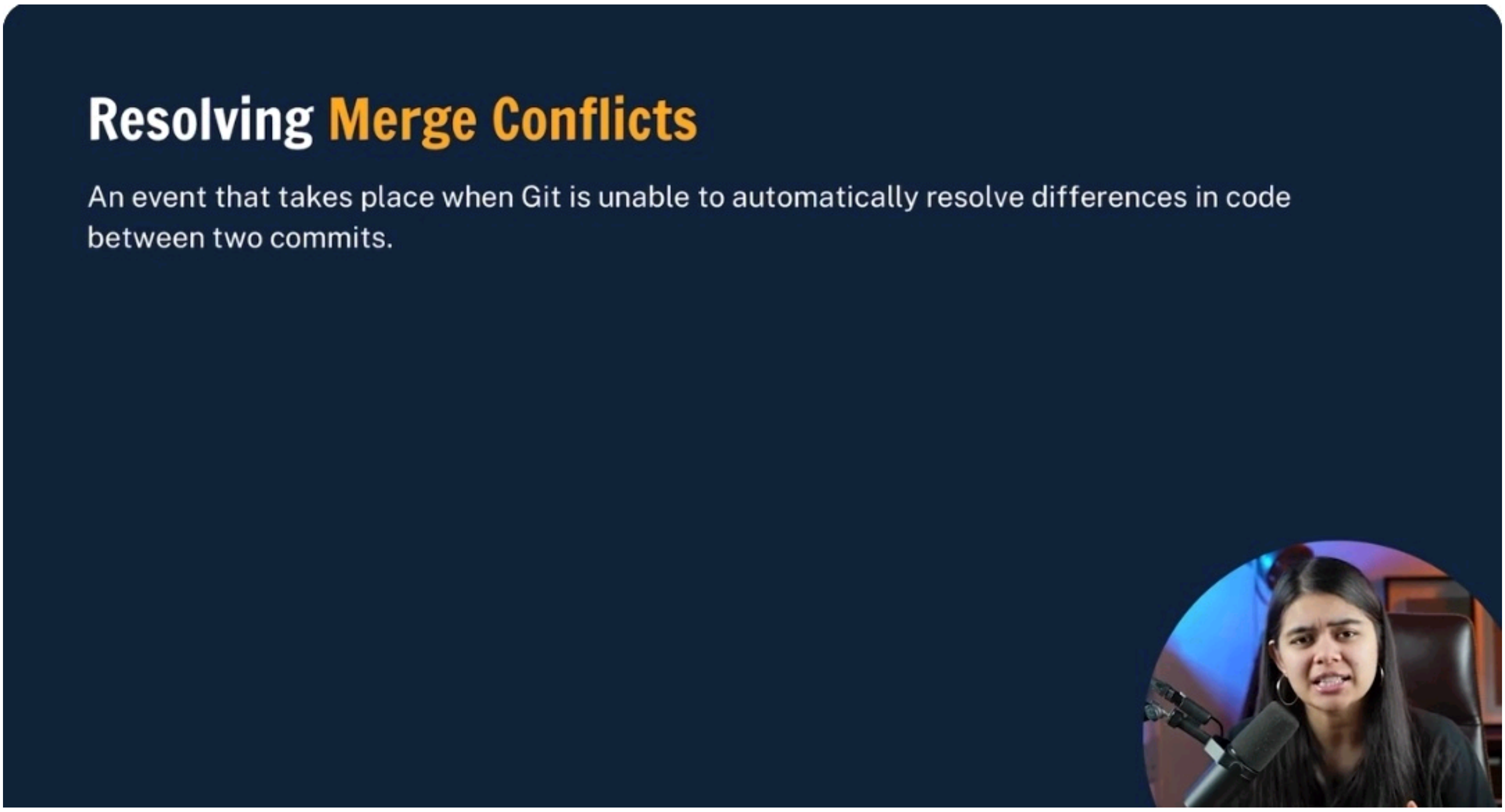
Way 2

Create a PR



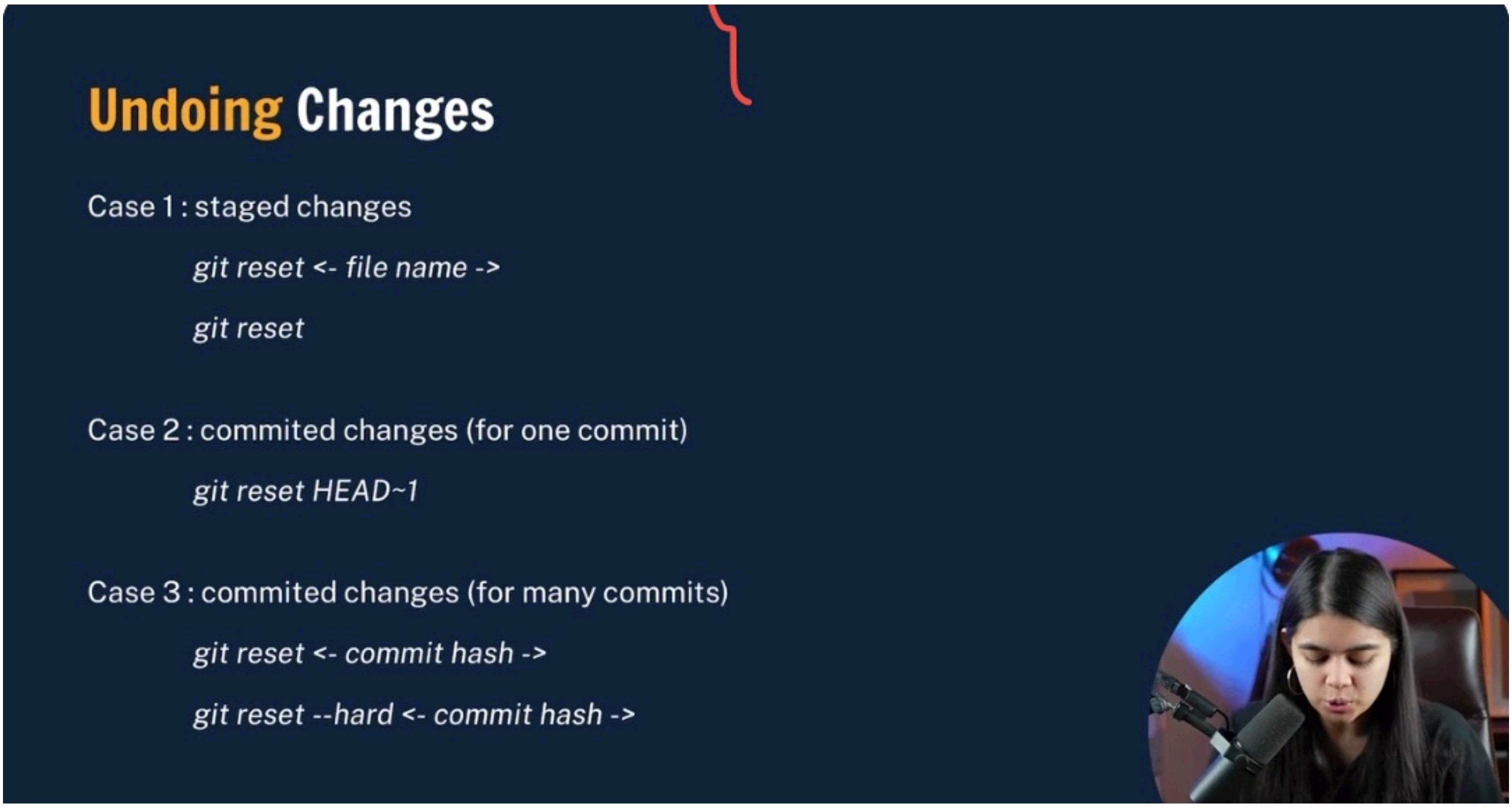
Pull Request

It lets you tell others about changes you've pushed to a branch in a repository on GitHub.



Resolving Merge Conflicts

An event that takes place when Git is unable to automatically resolve differences in code between two commits.



Undoing Changes

Case 1 : staged changes

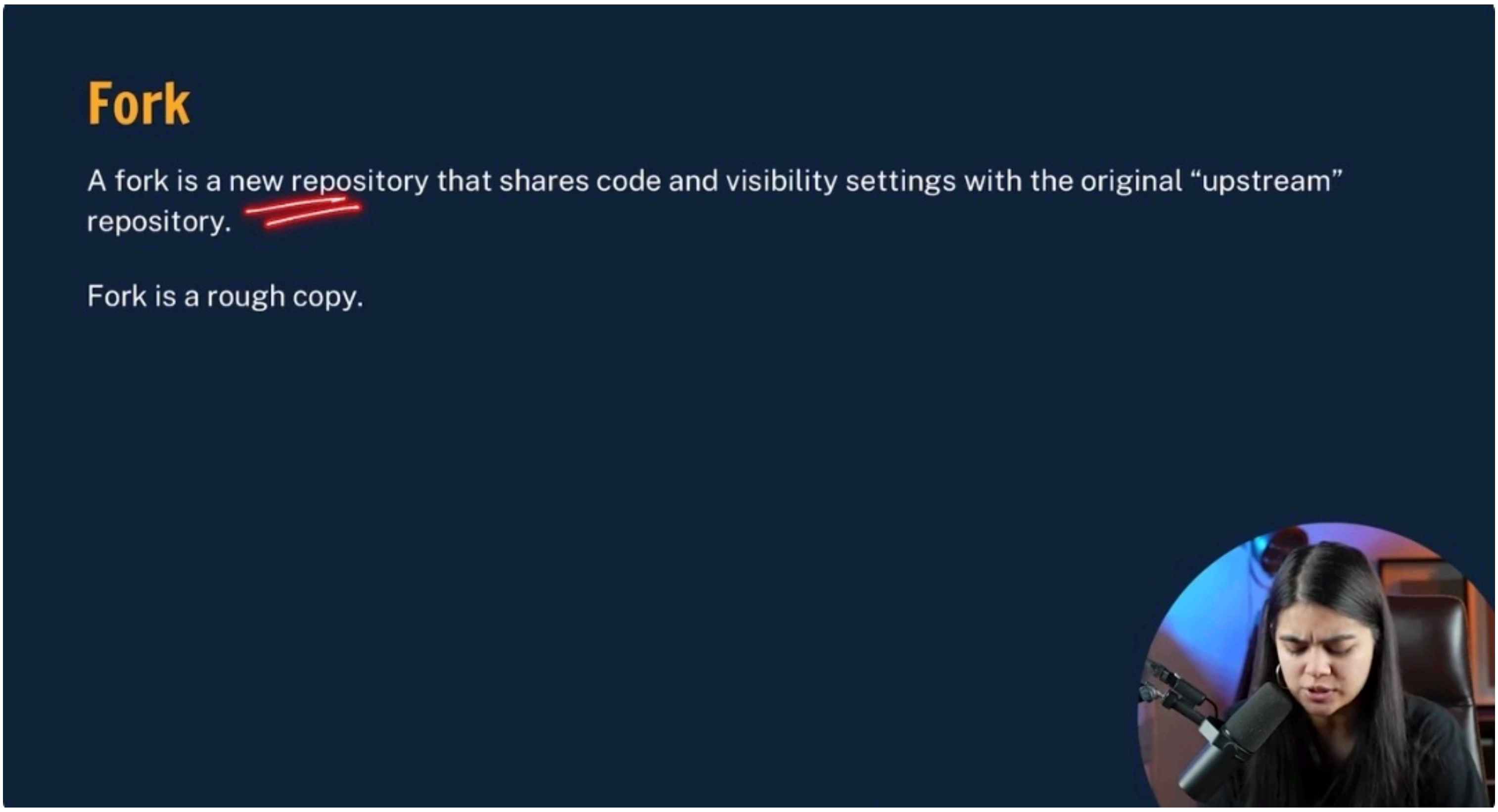
```
git reset <- file name ->
git reset
```

Case 2 : commited changes (for one commit)

```
git reset HEAD~1
```

Case 3 : commited changes (for many commits)

```
git reset <- commit hash ->
git reset --hard <- commit hash ->
```



Fork

A fork is a new repository that shares code and visibility settings with the original “upstream” repository.

Fork is a rough copy.