

# D.I.Y R package



Fonti Kar

she/her

# What's on this session?

- 1 hour
- Slides: Continuous Integration
- Slides: Dissecting GitHub Actions
- Code: Set up GHA for your own package! 🚀

# Current workflow

Develop → Test → Deploy

`usethis::use_r()`  
`devtools::document()`

`usethis::use_test()`  
`devtools::check()`



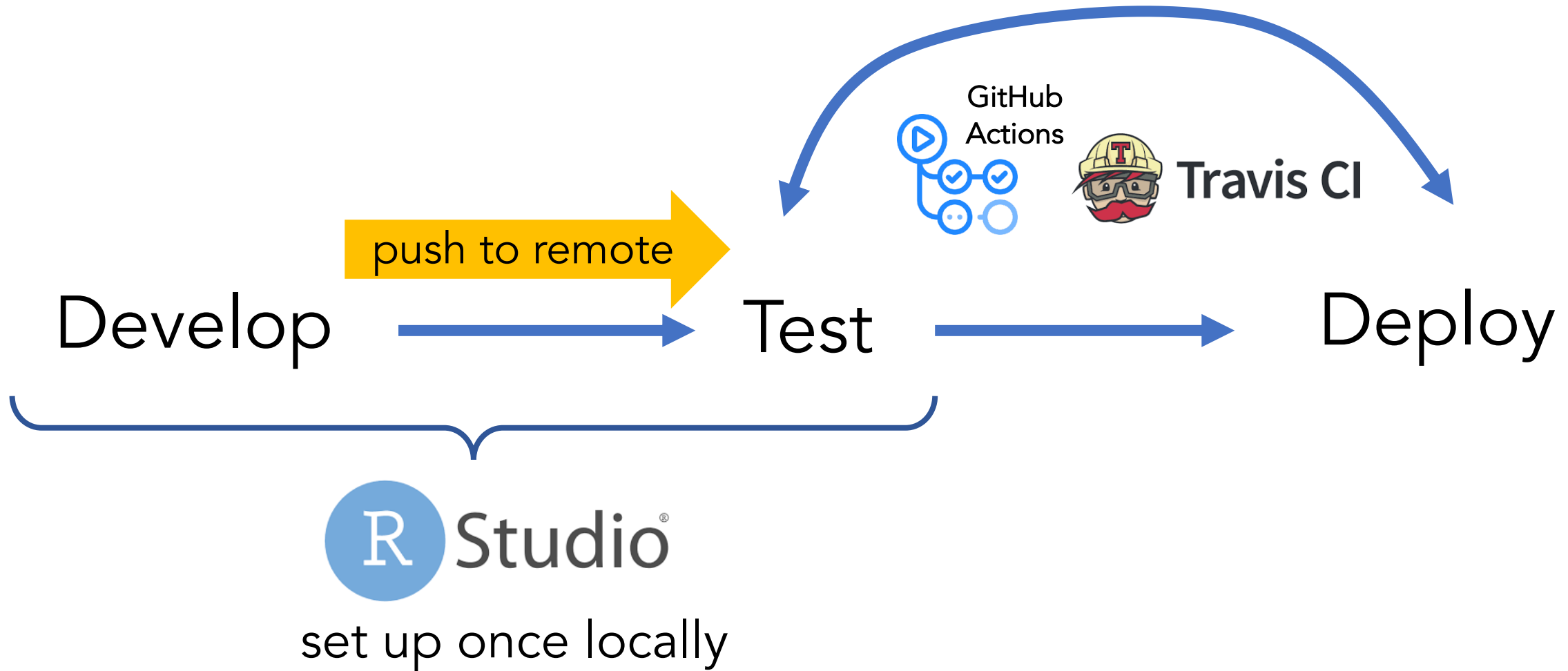
push to remote repo



locally on computer

# Continuous Integration

Automation!





# GitHub Actions

- All under one GitHub umbrella
- Supports many operating systems (Mac, Windows, Linux, Ubuntu)
- Its faster than other CI systems (Travis, Circle)
- Up to 20 concurrent jobs,
- \* Its free 🚀





# GHA for R

```
1 # Workflow derived from https://github.com/r-lib/acti
2 # Need help debugging build failures? Start at https:
3 on:
4   push:
5     branches: [main, master]
6   pull_request:
7     branches: [main, master]
8
9 name: R-CMD-check
10
11 jobs:
12   R-CMD-check:
13     runs-on: ubuntu-latest
14     env:
15       GITHUB_PAT: ${ secrets.GITHUB_TOKEN }
16       R_KEEP_PKG_SOURCE: yes
17     steps:
18       - uses: actions/checkout@v2
19
20       - uses: r-lib/actions/setup-r@v2
21         with:
22           use-public-rspm: true
23
24       - uses: r-lib/actions/setup-r-dependencies@v2
25         with:
26           extra-packages: any::rcmdcheck
27           needs: check
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29       - uses: r-lib/actions/check-r-package@v2
```

- stored in .github/workflows
- .yml file format
- Templates available through <https://github.com/r-lib/actions>

## GitHub Actions for the R language

R-CMD-check passing Community github-actions

This repository stores [GitHub Actions](#) for R projects, which can be used to do a variety of CI tasks. It also has a number of [example workflows](#) which use these actions.

- Set up and access templates with {usethis}  
usethis::use\_github\_action\_check\_release()
- **Requires** setting up a GitHub Personal Access Token (PAT) first!



```
1 ▾ # Workflow derived from https://github.com/r-lib/actions
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```

} Events

- **on:** [required]
  - When should GHA execute this workflow?
- Very customizable
  - Branch specific
  - Action specific
    - Push
    - Pull
    - Issue open

**on:** issues: types: [opened, edited, milestoned]

- Path specific

```
on:
  push:
    paths:
      - my-document/my-document.Rmd
```

- **name:** [optional]
  - Displayed on GHA site
  - Intuitive to you



```
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```

Job  
info

Job

- jobs: [required]
  - one or multiple jobs
  - groups related steps
- runs-on: [required]
  - The OS you want to run workflow
  - Option to set up multiple platforms

```
runs-on: ${ matrix.config.os }
name: ${ matrix.config.os }
strategy:
  matrix:
    config:
      - os: windows-latest
      - os: macOS-latest
      - os: ubuntu-16.04
```

- Option to also specific R version

```
matrix:
  config:
    - {os: macOS-latest, r: 'release'}
    - {os: windows-latest, r: 'release'}
    - {os: ubuntu-latest, r: 'release'}
    - {os: ubuntu-latest, r: 'oldrel-1'}
```





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```

Job  
info

Job

- **env:** [required]
  - Environmental variables which controls the R session on GHA server
  - Run `sys.getenv()` to view the ones you have locally
- **GITHUB\_PAT:** [required]
  - Leave as default



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```

Job

Steps

- **steps:** [required]
  - Sequence of tasks required to complete this workflow
- **uses:** [required]
  - Access public workflows written by otherse.g.
  - <https://github.com/actions/checkout>
  - <https://github.com/r-lib/actions/releases>
- **with:** [required]
  - Extra dependencies needed for step
- **needs:** [required]
  - identify any steps that must complete successfully before this can run