

Git & GitHub Cheat Sheet

Research Palooza 2025 - Git Pro Workshop

by Sayan Ghosh, IC&SR, IIT Madras

Start a Repo

- Initialize: `git init`
- Clone existing: `git clone URL`

Basic Workflow

- Check status: `git status`
- Stage file: `git add <file>`
- Commit changes: `git commit -m "Message"`
- See history: `git log`

Branching

- List branches: `git branch`
- Create new branch: `git branch new-branch`
- Switch branch: `git checkout new-branch`
- Or: `git checkout -b new-branch`

Merging

- Merge branch: `git merge other-branch`
- Solve conflicts: edit files, then `git add` and `git commit`

Remote

- Add remote: `git remote add origin URL`
- Push: `git push -u origin branch`
- Pull: `git pull`

Pull Requests

- Push your branch to GitHub.
- Open a Pull Request (PR) on GitHub.
- Assign a teammate to review.
- Merge PR when approved.

Tips

- Use clear branch names: `issue-number/short-name`
- Write meaningful commit messages.
- Pull often to stay up to date.
- Communicate in PR comments!