



Recitation 1 - 09/04/2020

Remote Work & Collaboration

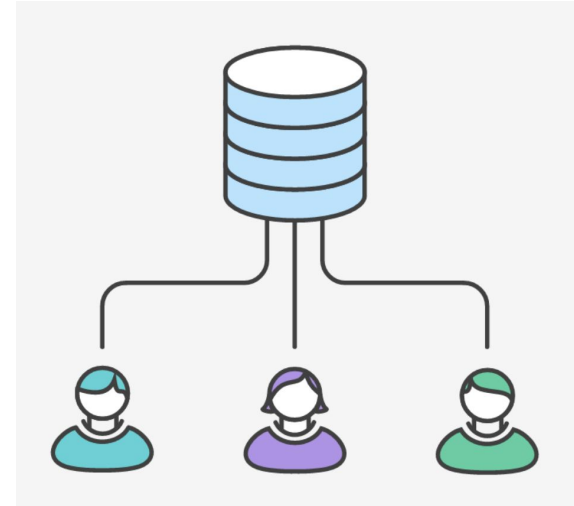


Technical & Non-technical Aspects

- Technical (code and non-code artifacts)
 - Code
 - Design
 - Documents
 - ...
- Non-technical
 - Communication
 - Availability
 - Common Understanding
 - ...















Git

- Distributed version control system
- Has a central repository of the code
- Users can have local copies of the code
- Local updates get pushed to the central repository
- Commits to the central repository are authenticated
- Line-based
- Commits are faster (local copy)
- Version control provides traceability benefits



Source: <https://info201-s17.github.io/book/git-collaboration.html>

Version Control, Traceability

Commits on Jul 26, 2020		
Added back session validation check vaithya94 committed on Jul 26 ✓	 5365b2a	
Skip session check temporarily vaithya94 committed on Jul 26 ✓	 85bb138	
Fix for nav bar links vaithya94 committed on Jul 26 ●	 b74df29	
Fix for nav bar links vaithya94 committed on Jul 26 ●	 e77b879	
Adding the ability to build new image for each deployment vaithya94 committed on Jul 26 ✓	 32f3156	
Disabled session validation check for routes vaithya94 committed on Jul 26 ✗	 acd390c	
Update to Login URL vaithya94 committed on Jul 26 ✓	 d2da439	

Source: Moonshot studio team project repository





Some Common Operations

- Clone : Make a local copy of a remote repository
- Pull : Download latest code from a remote repository to a local repository
- Commit / Check in : Update code / create a new revision in the local repository
- Push : Update the remote repository with local code changes
- Checkout : Switch to a branch / make a branch as your working branch
- Merge : Merge code from two branches
- Rebase : Similar to merge. **What's the difference then?**
- Fork : Similar to branching. **What's the difference then?**



Commands

- git init
- git clone
- git fetch
- git checkout
- git pull
- git add
- git commit
- git push
- git stash
- git status
- git log
- git revert
- git reset
- git tag
- git merge
- git rebase
- git config
- git diff



Best Practices

- Use meaningful, descriptive commit messages
- Commit frequently (for completion of a small logical unit of code)
- Avoid committing generated files
- Use branches wisely
- Make use of pull requests (add description to help the reviewer)
- Have a defined process (or) Git workflow
- Aim to version control all code (IaaS, configurations, etc.)



Let's practice!

- Install Git - <https://www.atlassian.com/git/tutorials/install-git>
- Goal: Get yourself familiarized with some basic git operations
- NOTE: Set up SSH keys to allow passwordless commits later



Task 1: Create a pull request

ckaestne / seai

Watch

9

Star

67

Fork

32

Code

Issues

Pull requests

Actions

Wiki

Security

Insights

F2020

6 branches

0 tags

Go to file

Add file

Code



ckaestne minor slide updates

✓ 9cd18a7 10 hours ago 314 commits

.assets	update template	13 days ago
.github/workflows	update to never version from S2020	13 days ago
assignments	Update l1_case_study.md	yesterday
lectures	minor slide updates	10 hours ago
other_lectures	added previous course material	15 months ago
other_material	add final exam and feedback form	8 months ago

About

CMU 17-445/645: Software Engineering for AI-Enabled Systems (SE4AI)

ckaestne.github.io/seai/

machine-learning

education

course-materials

software-engineering

carnegie-mellon-university

Readme

View license

ckaestne minor slide updates

- .assets update tem
- .github/workflows update to n
- assignments Update l1_c
- lectures minor slide
- other_lectures added prev
- other_material add final ex
- .gitignore migrate to custom gh-pages with circleci

Code

About

CMU 17-445/645: Software Engineering for AI-Enabled Systems (SE4AI)

ckaestne.github.io/seai/

machine-learning education
course-materials software-engineering
carnegie-mellon-university

Readme

View license

Fork seai

Where should we fork seai?



vaithya94



17-654-MSE-Analysis



cmu-seai

Can't find what you're looking for?

You don't have permission to fork to these organizations:



PlanetaryRobotics

 **vaithya94** / **seai**

forked from [ckaestne/seai](#)

 Watch ▾

0


 Star

0

 Fork

33

 Code

 Pull requests

 Actions

 Projects

 Wiki

 Security

 Insights

 Settings

 F2020 ▾

 6 branches


 0 tags

Go to file

Add file ▾

 Code ▾

This branch is even with ckaestne:F2020.

 Pull request

 Compare



ckaestne minor slide updates

9cd18a7 10 hours ago  314 commits



.assets

update template

13 days ago



.github/workflows

update to never version from S2020

13 days ago

About



CMU 17-445/645: Software
Engineering for AI-Enabled Systems
(SE4AI)

 ckaestne.github.io/seai/

 Readme

 View license

vaithya94 / seai

forked from ckaestne/seai

Watch

0

Star

0

Fork

33

Code

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

F2020

6 branches

0 tags

Go to file

Add file

Code

This branch is even with ckaestne:F2020.

ckaestne minor slide updates

.assets	update template
.github/workflows	update to never version from S2020
assignments	Update l1_case_study.md
lectures	minor slide updates
other_lectures	added previous course material

Clone with HTTPS

Use SSH

Use Git or checkout with SVN using the web URL.

https://github.com/vaithya94/seai.g



Open with GitHub Desktop

Download ZIP

About



CMU 17-445/645: Software Engineering for AI-Enabled Systems (SE4AI)

ckaestne.github.io/seai/


Readme

View license


Releases

No releases published

Create a new release




```
VaithyathansMBP:se4ai-ta vaithya$ git clone https://github.com/vaithya94/seai.git
Cloning into 'seai'...
remote: Enumerating objects: 100, done.
remote: Counting objects: 100% (100/100), done.
remote: Compressing objects: 100% (68/68), done.
remote: Total 3347 (delta 64), reused 60 (delta 29), pack-reused 3247
Receiving objects: 100% (3347/3347), 336.77 MiB | 7.97 MiB/s, done.
Resolving deltas: 100% (1542/1542), done.
VaithyathansMBP:se4ai-ta vaithya$
```



```
VaithyathansMBP:se4ai-ta vaithya$ cd seai/
VaithyathansMBP:seai vaithya$ ls
LICENSE.md          learning_goals.md      lectures               overview.png          poster_small.jpg
README.md           lecture_dependencies.dot other_lectures         poster.jpg            schedule.md
assignments         lecture_dependencies.svg other_material         poster.pdf
VaithyathansMBP:seai vaithya$ mkdir practice
VaithyathansMBP:seai vaithya$ vi hello.txt
VaithyathansMBP:seai vaithya$ git add .
VaithyathansMBP:seai vaithya$ git commit -m 'Recitation practice: Added hello.txt with a hello message to practice pushing code to a remote repo'
[F2020 0c5791d] Recitation practice: Added hello.txt with a hello message to practice pushing code to a remote repo
 1 file changed, 1 insertion(+)
 create mode 100644 hello.txt
VaithyathansMBP:seai vaithya$ git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 334 bytes | 334.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/vaithya94/seai.git
   9cd18a7..0c5791d  F2020 -> F2020
VaithyathansMBP:seai vaithya$
```


 **vaithya94** / **seai**

forked from [ckaestne/seai](#)

 Watch ▾

0

 Star

0

 Fork

33


< > Code

 **Pull requests**


 Actions

 Projects

 Wiki

 Security

 Insights

 Settings

Filters ▾

🔍 is:pr is:open

 Labels 9

 Milestones 0

New pull request

Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#).



base repository: ckaestne/seai ▾

base: F2020 ▾



head repository: vaithya94/seai ▾

compare: F2020 ▾

✓ **Able to merge.** These branches can be automatically merged.

Discuss and review the changes in this comparison with others. [Learn about pull requests](#)

[Create pull request](#)

1 commit

1 file changed

0 comments

1 contributor



Commits on Aug 31, 2020



Recitation practice: Added hello.txt with a hello message to practice...

0c5791d

Showing **1 changed file** with **1 addition** and **0 deletions**.

Unified

Split

1 hello.txt

...

... @@ -0,0 +1 @@

1 + hello!

Recitation practice: Added hello.txt with a hello message to practice... #46

Edit

Open with ▾

🔗 Open vaithya94 wants to merge 1 commit into [ckaestne:F2020](#) from [vaithya94:F2020](#) 📄

💬 Conversation 0

🔗 Commits 1

📄 Checks 0

📄 Files changed 1

+1 -0 🟢🟡🔴



vaithya94 commented now



No description provided.

Reviewers

No reviews

Still in progress? Convert to draft



Recitation practice: Added hello.txt with a hello message to practice... ⋮

0c5791d

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Add more commits by pushing to the **F2020** branch on [vaithya94/seai](#).



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

PudFish requested your review on this pull request.

Add your review

Feature/simplify #20

Edit

Open with ▾

🔗 Open PudFish wants to merge 38 commits into `develop` from `feature/simplify` 📄

💬 Conversation 0

🔗 Commits 38

📄 Checks 14

📄 Files changed 91

+2,820 -3,451 🟢🔴🔴🔴🔴



PudFish commented 4 days ago • edited ▾



I have reduced, simplified, and refactored the code with the intent of making it more maintainable, readable, consistent and therefore extendable. I spent some time over semester break learning best practices and testing out code patterns on MockRanger. I'm embracing the go way of keeping it simple and clean and trying not to follow habits from other programming languages. These changes impact how to deploy and get the code running, but the functionality should be left unaltered. Let me know in the comments if you have any concerns with the changes, need more rationale or I've broken something.

Docker

- Added a Dockerfile for the Postgres database
- Simplified the Dockerfile for the database access module
- Changed the database access module to execute the binary
- Simplified the docker-compose to build from Dockerfile
- Removed exporting both dev & non-dev ports from docker-compose

Reviewers



- mohonish
- lijiawu
- vaithya94

Still in progress? Convert to draft

Assignees



No one—assign yourself

Labels



None yet



Task 2: Rebase a feature branch

<https://learngitbranching.js.org/>



Task 3: Resolve a merge conflict

<https://learngitbranching.js.org/>



Resources

- <https://www.atlassian.com/git/tutorials/learn-git-with-bitbucket-cloud>
- <https://docs.github.com/en/github/authenticating-to-github/connecting-to-github-with-ssh>
- <https://info201-s17.github.io/book/git-collaboration.html>
- <https://git-scm.com/doc>
- <http://try.github.io/>