AutoRob

Introduction to Autonomous Robotics

Michigan EECS 367

Robot Kinematics and Dynamics

Michigan ME 567 EECS 567 ROB 510

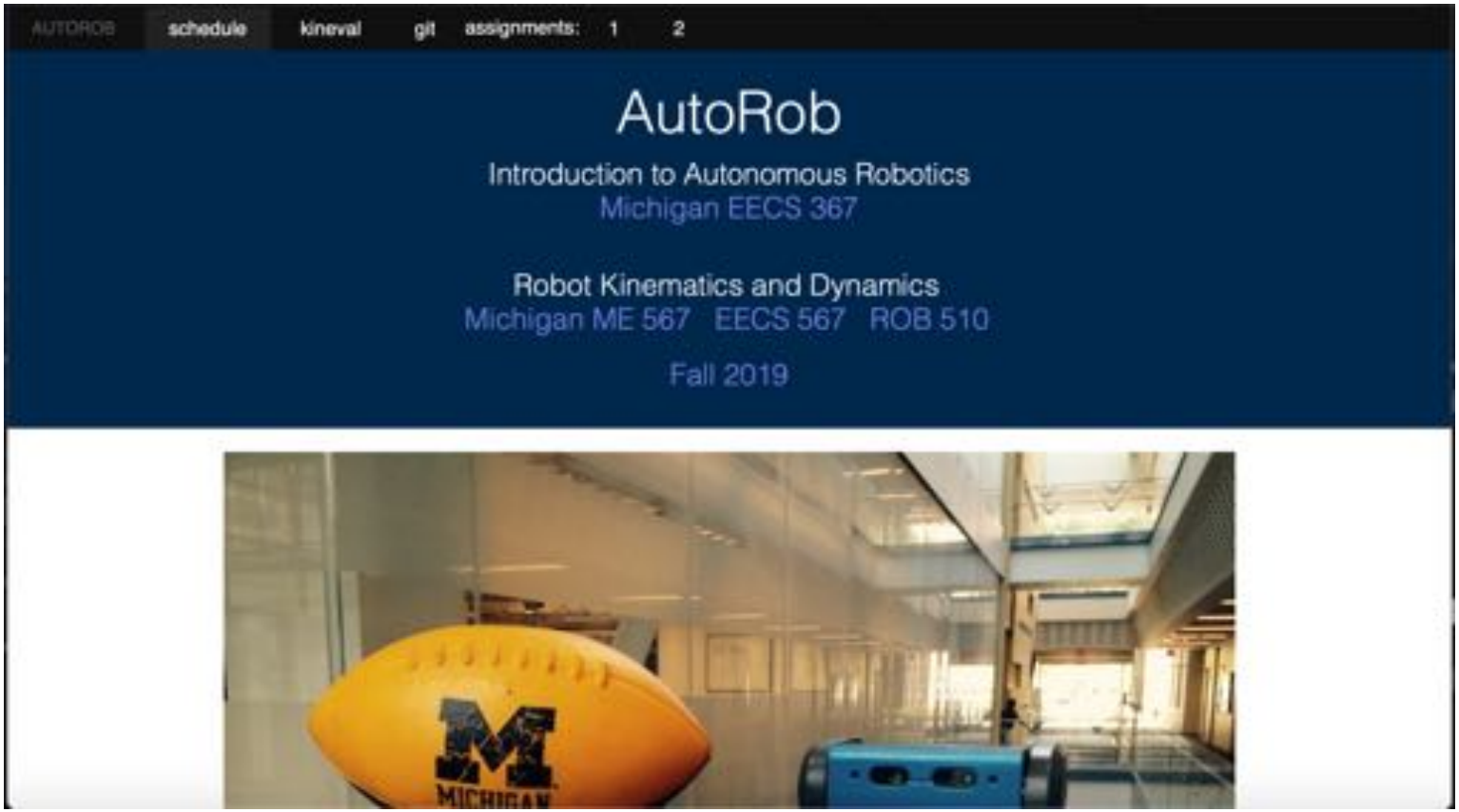
Fall 2019

EECS 367 Lab:
Git-ing started with git

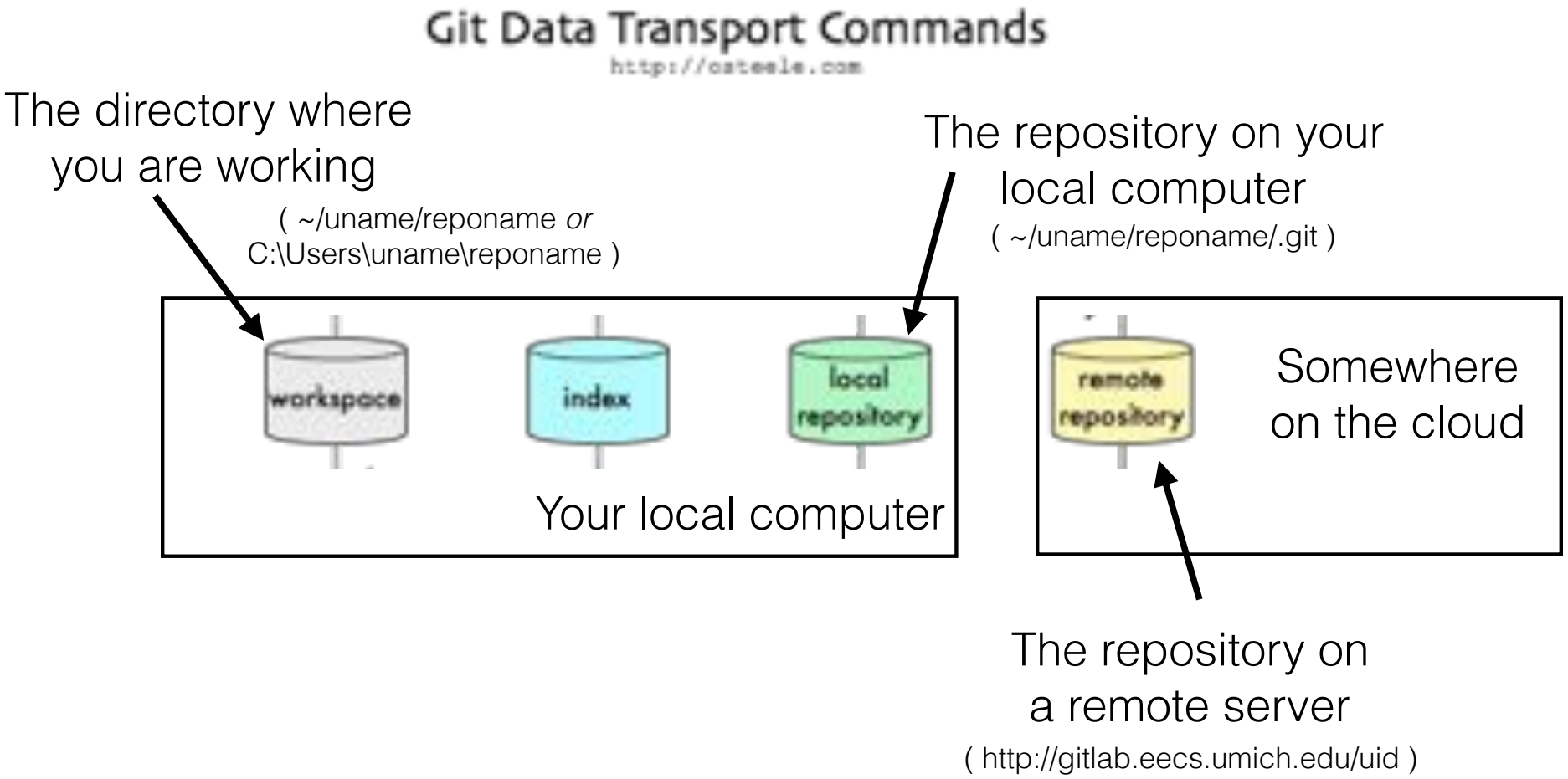
Administrative

- Welcome to AutoRob!
- Lots of information on the course website
  - https://autorob.org
- Assignment #1: Path Planning
  - Due 11:59pm, Wednesday, September 18

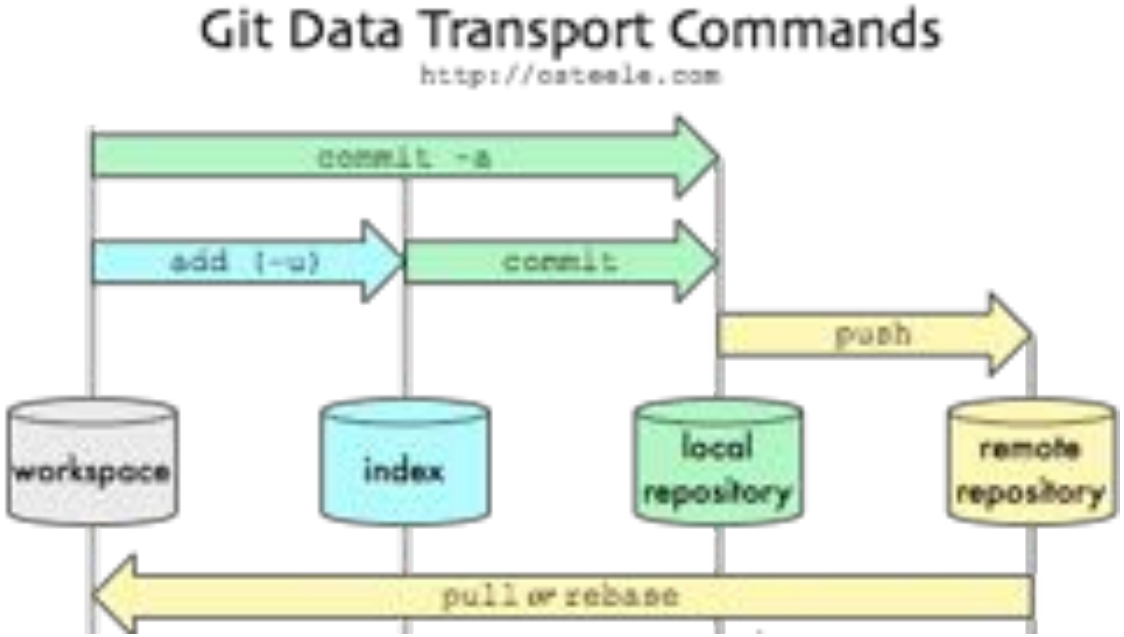
Administrative



Motivation

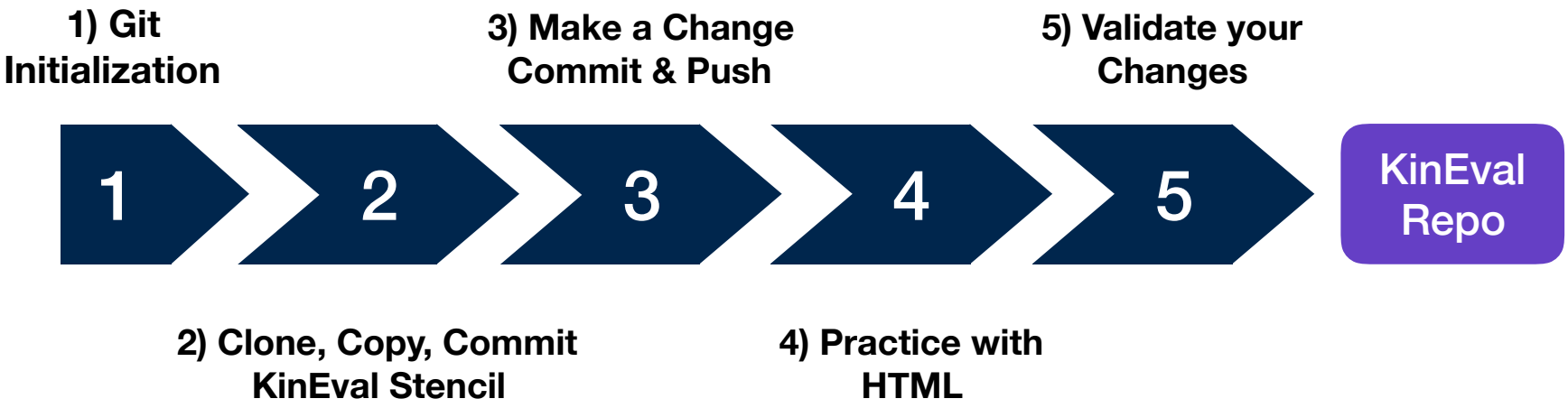

Git Data Transport Commands
http://osteele.com
The directory where you are working
(~/uname/reponame *or* C:\Users\uname\reponame)
The repository on your local computer
(~/uname/reponame/.git)
workspace
index
local repository
Your local computer
remote repository
Somewhere on the cloud
The repository on a remote server
(http://gitlab.eecs.umich.edu/uid)

Motivation



~/uname/reponame ~/uname/reponame/.git http://gitlab.eecs.umich.edu/~uid

Lab Takeaways



Git Basics: commands

- Push completed project to repository (or just to update)
  - add files to a repository: `git add <file listing>`
  - commit changes to local repo: `git commit -a -m "<msg>"`
  - push local changes to a remote repository: `git push`
- Pull to updates your local repository (and workspace) from remote
  - pull remote changes to a local repository: `git pull`

Git Initialization

1) Create a git repository on github, bitbucket, or EECS gitlab website

2) Install git on your machine

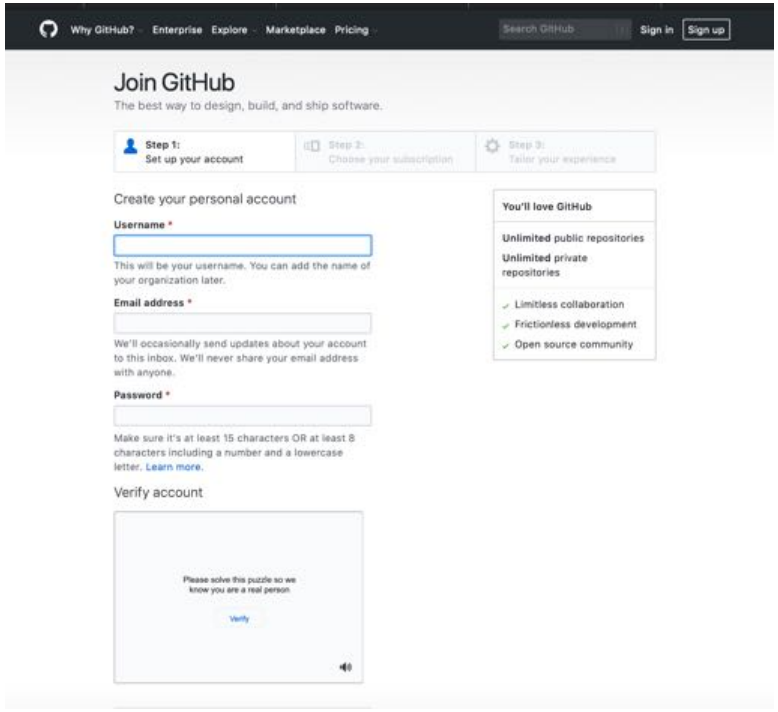
https://git-scm.com/book/en/v2/Getting-Started-Installing-Git

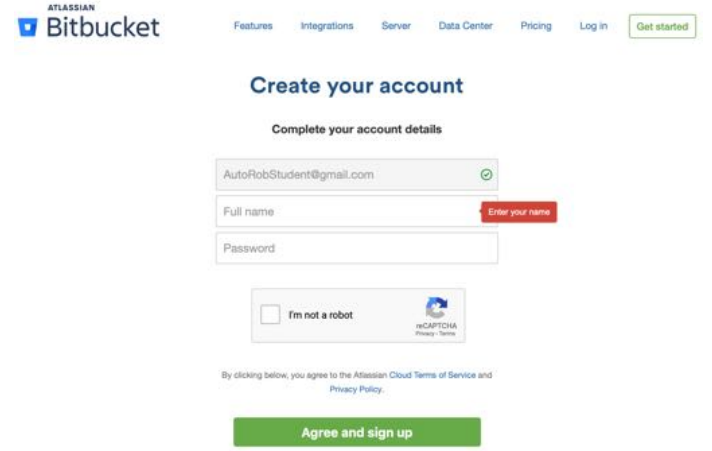
OSX: https://code.google.com/p/git-osx-installer/

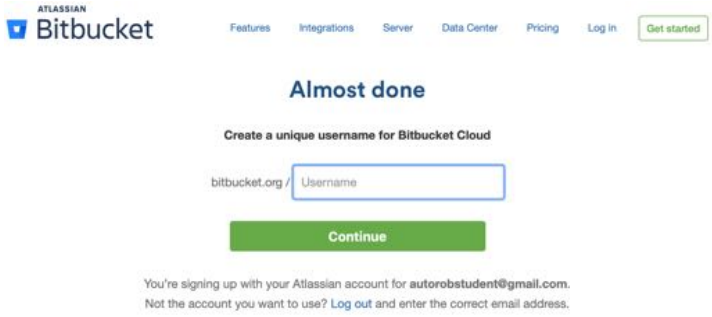
3) Clone the repository to your machine:

```
git clone https://github.com/yourid/yourrepo.git
```

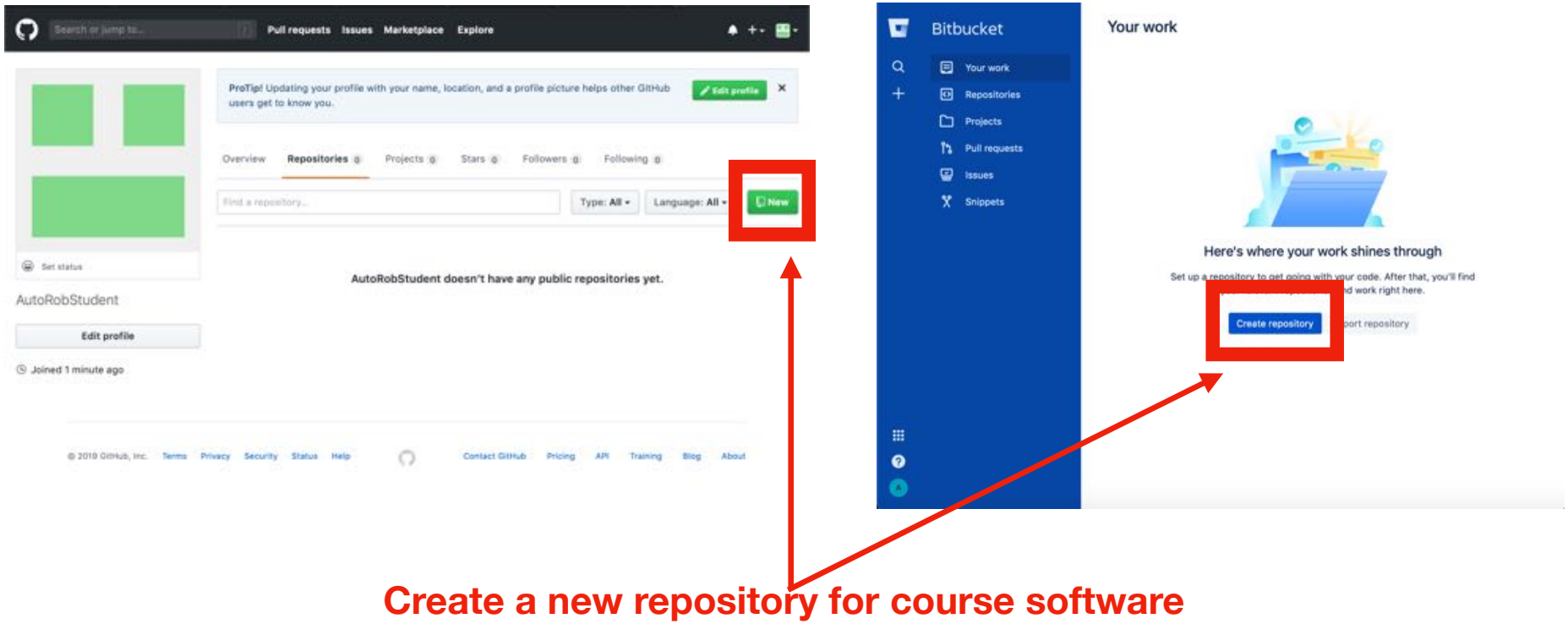
1) Create a git repository on github, bitbucket, or EECS gitlab website





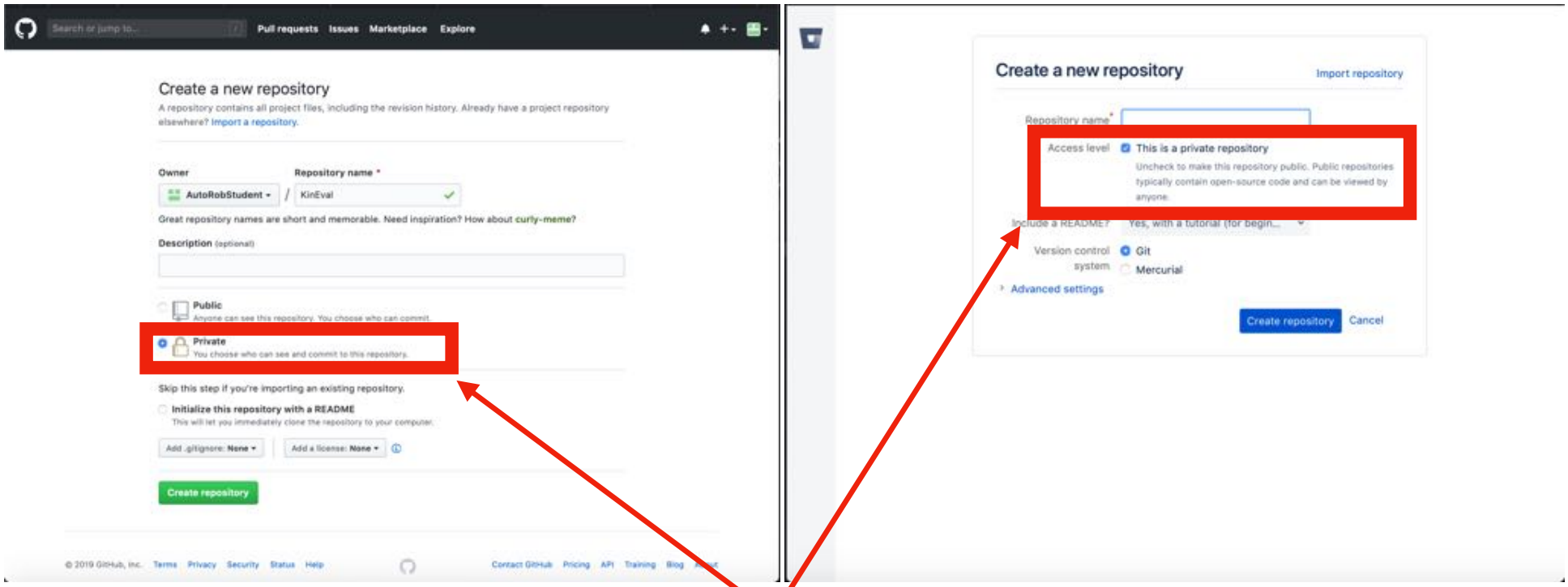


1) Create a git repository on github, bitbucket, or EECS gitlab website



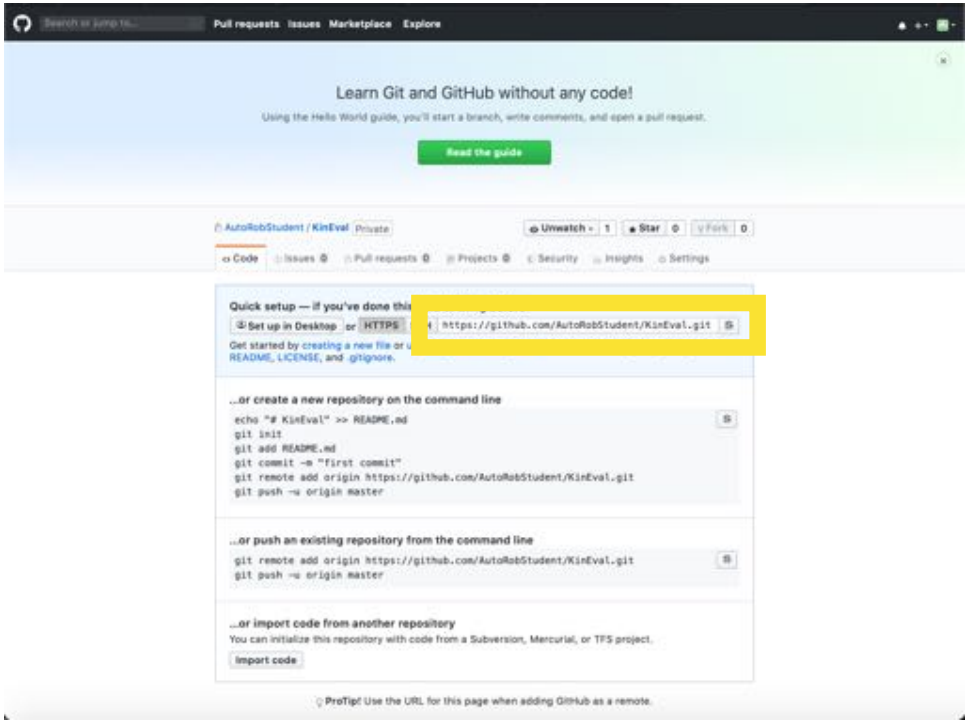
Create a new repository for course software

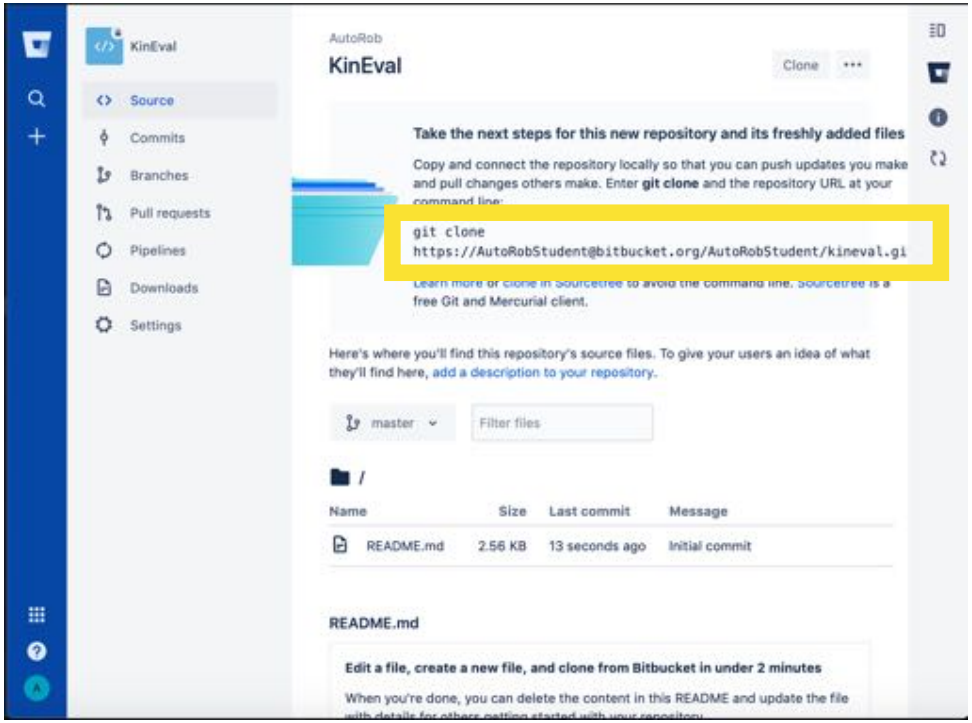
1) Create a git repository on github, bitbucket, or EECS gitlab website



Ensure your repo is private!

1) Create a git repository on github, bitbucket, or EECS gitlab website





Success!

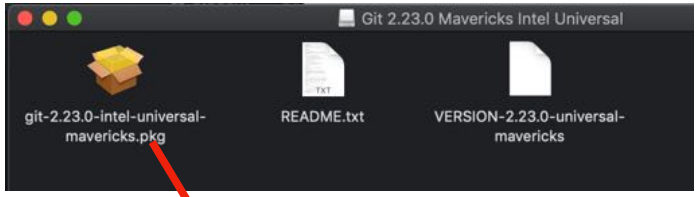
2) Install git on your machine

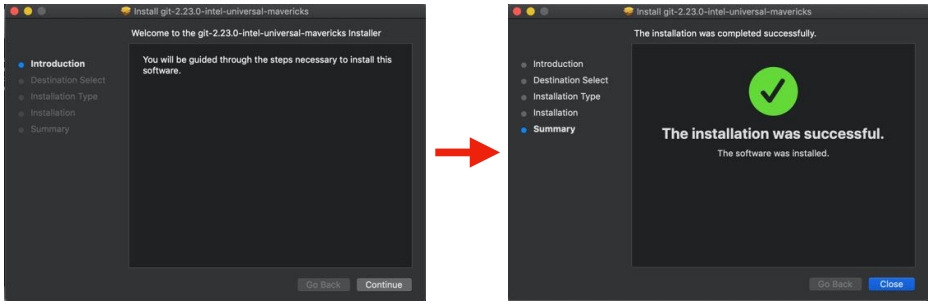
https://git-scm.com/book/en/v2/Getting-Started-Installing-Git

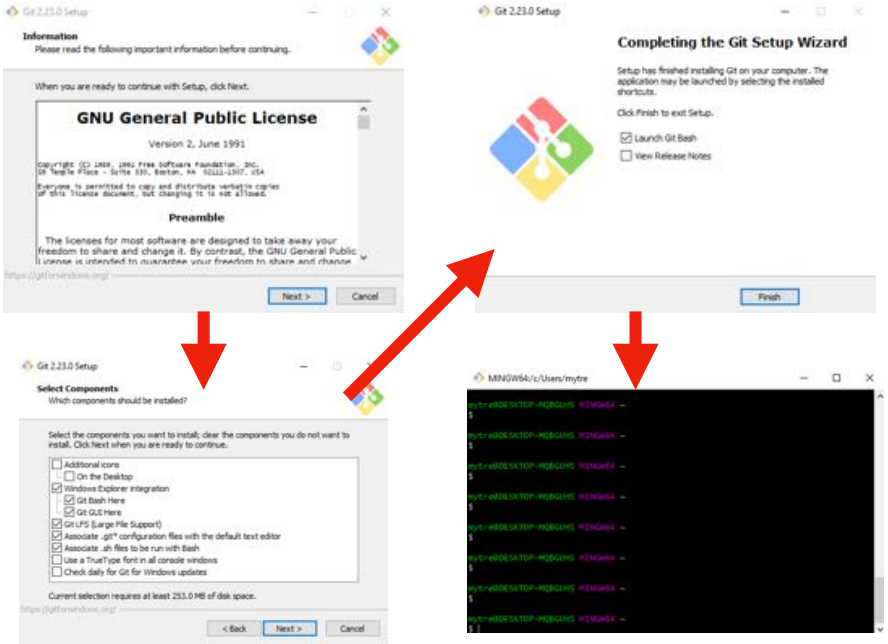
OSX: https://code.google.com/p/git-osx-installer/

```
[tpos-MacBook-Pro:~ student$ git --version
git version 2.23.0
```

OR

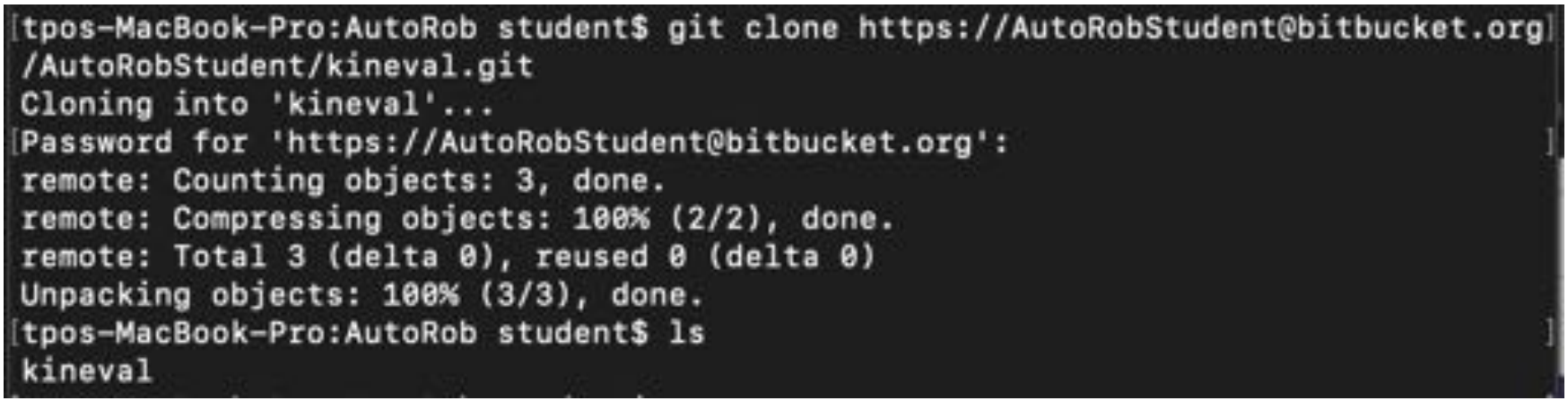






3) Clone the repository to your machine:

`git clone https://github.com/yourid/yourrepo.git`



KinEval: Clone, Copy, Commit

4) Clone contents of stencil repository the repository to your machine:

```
git clone https://github.com/autorob/kineval-stencil
```

5) Copy contents of stencil repository to your repository

```
cd <your repository directory>
cp -r <stencil repository directory>/* .
```

6) Commit these changes and then push them to your remote repository

```
cd <your repository directory>
git add *
git commit -a -m "initial commit"
git push
```

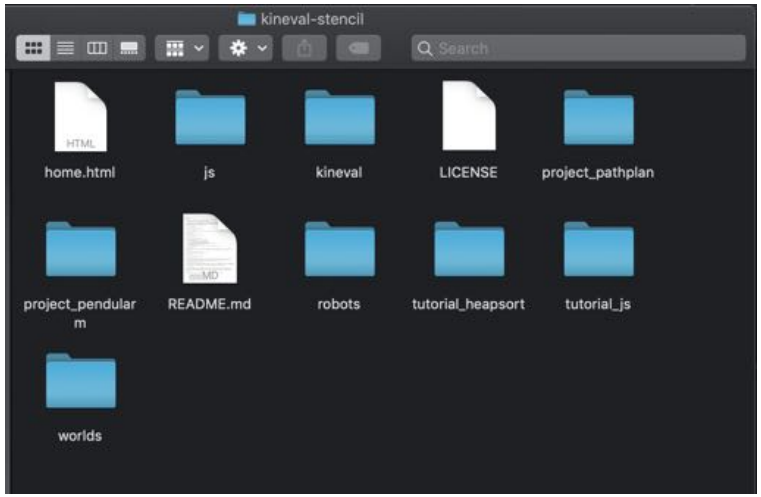
7) Check webpage for remote repository to see changes online

4) Clone contents of stencil repository the repository to your machine:

`git clone https://github.com/autorob/kineval-stencil`

```
tpos-MacBook-Pro:AutoRob student$ git clone https://github.com/autorob/kineval-s
tencil
Cloning into 'kineval-stencil'...
remote: Enumerating objects: 191, done.
remote: Total 191 (delta 0), reused 0 (delta 0), pack-reused 191
Receiving objects: 100% (191/191), 24.92 MiB | 11.59 MiB/s, done.
Resolving deltas: 100% (10/10), done.
```

kineval-stencil

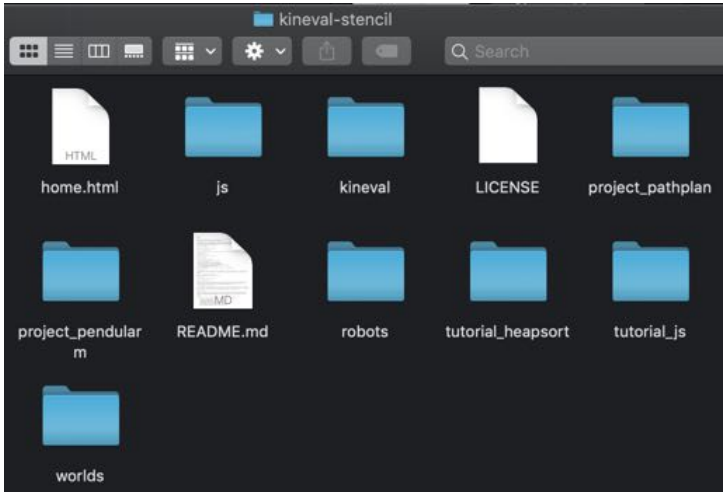


5) Copy contents of stencil repository to your repository

```
cd <your repository directory>
cp -r <stencil repository directory>/* .
```

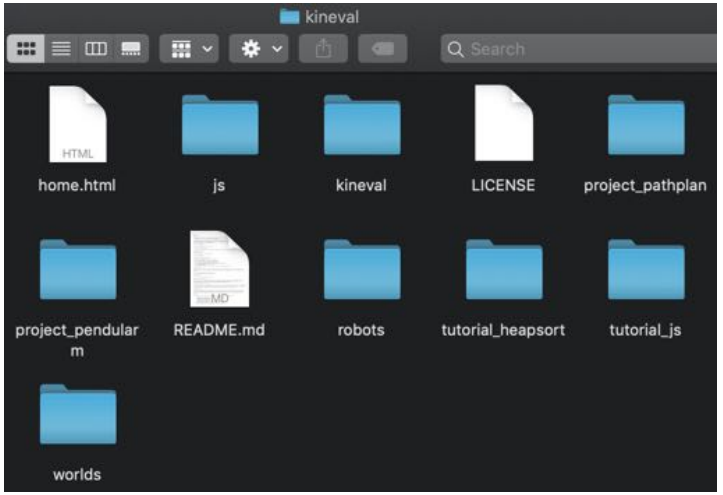
```
tpos-MacBook-Pro:~ student$ cd Documents/AutoRob/bit/kineval/
tpos-MacBook-Pro:kineval student$ cp -r ~/Documents/AutoRob/kineval-stencil/* .
tpos-MacBook-Pro:kineval student$ ls
LICENSE                 kineval                 tutorial_heapsort
README.md               project_pathplan        tutorial_js
home.html               project_pendularm       worlds
js                      robots
```

kineval-stencil



=

Student's local repo



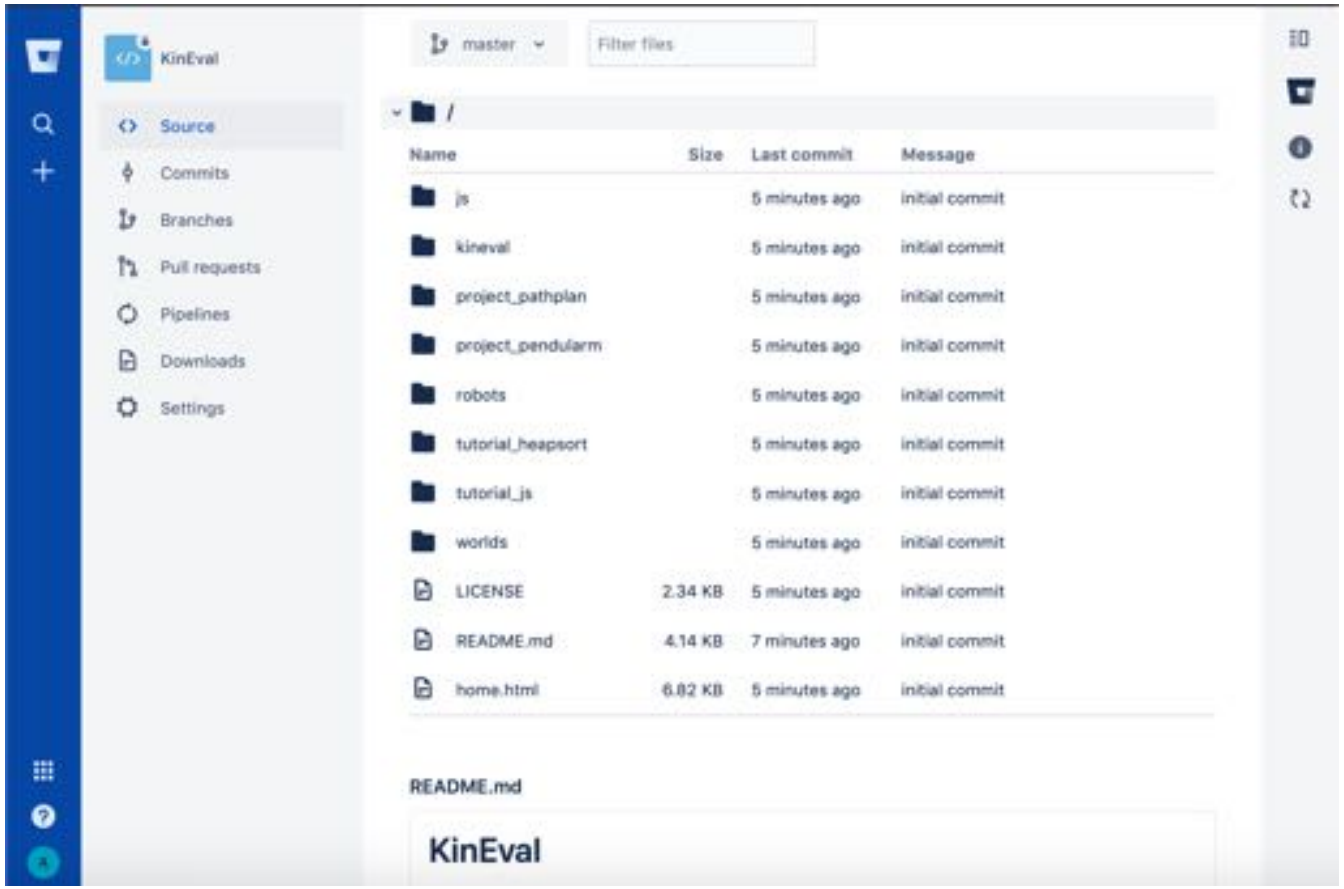
6) Commit these changes and then push them to your remote repository

```
cd <your repository directory>
git add *
git commit -a -m “initial commit”
git push
```

```
tpos-MacBook-Pro:kineval student$ git add *
tpos-MacBook-Pro:kineval student$ git commit -a -m "initial commit"
[master 8d4a274] initial commit
 Committer: Student <student@tpos-MacBook-Pro.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 167 files changed, 129553 insertions(+)
 create mode 100644 LICENSE
 create mode 100644 home.html
 create mode 100644 js/3jsbot_camera.js.backup
 create mode 100644 js/ColladaLoader.js
 create mode 100644 js/ColladaLoader2.js
```

```
tpos-MacBook-Pro:kineval student$ git push
Enumerating objects: 192, done.
Counting objects: 100% (192/192), done.
Delta compression using up to 4 threads
Compressing objects: 100% (188/188), done.
Writing objects: 100% (190/190), 23.72 MiB | 1.24 MiB/s, done.
Total 190 (delta 11), reused 0 (delta 0)
remote: Resolving deltas: 100% (11/11), done.
To https://bitbucket.org/AutoRobStudent/kineval.git
   f32b1fb..8d4a274  master -> master
```

7) Check webpage for remote repository to see changes online



Make a Change: Commit & Push

8) Open “home.html” and “project_pathplan/search_canvas.html” in a web browser (make sure this code runs properly)

9) Create “me.html” using a text editor with your name added to the file

10) Add “me.html” to your local repository

```
cd <your repository directory>
git add *
```

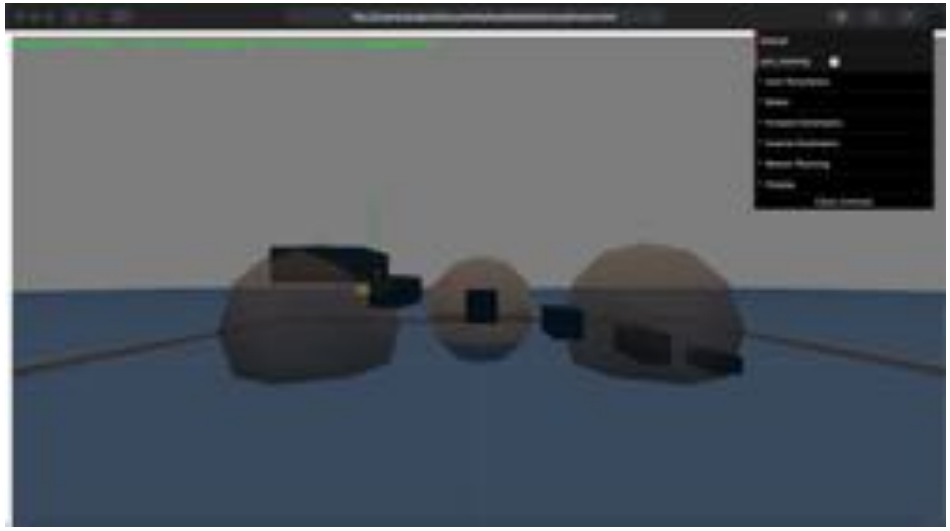
11) Commit and push “me.html” to your remote repository

```
git commit -a -m “created my html file”
git push
```

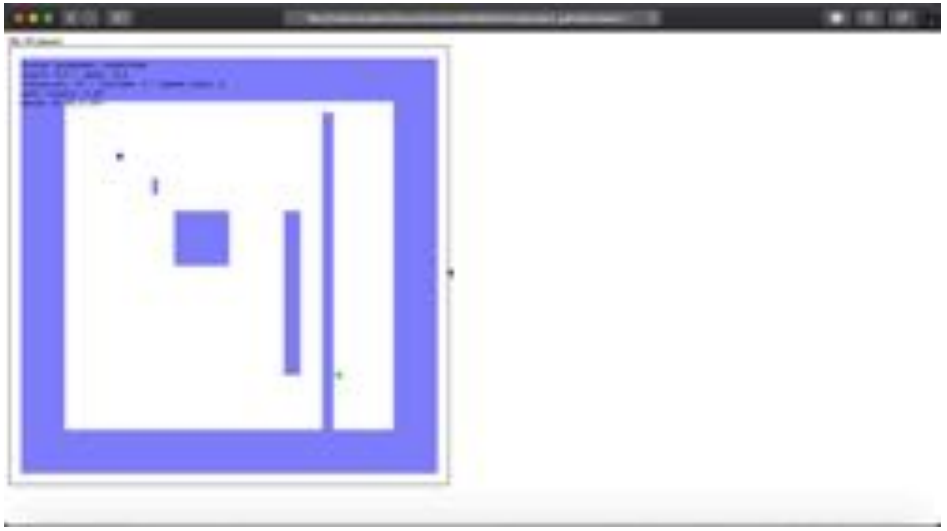
12) Check webpage for remote repository to see changes online

8) Open “home.html” and “project_pathplan/search_canvas.html” in a web browser (make sure this code runs properly)

home.html



project_pathplan/search_canvas.html



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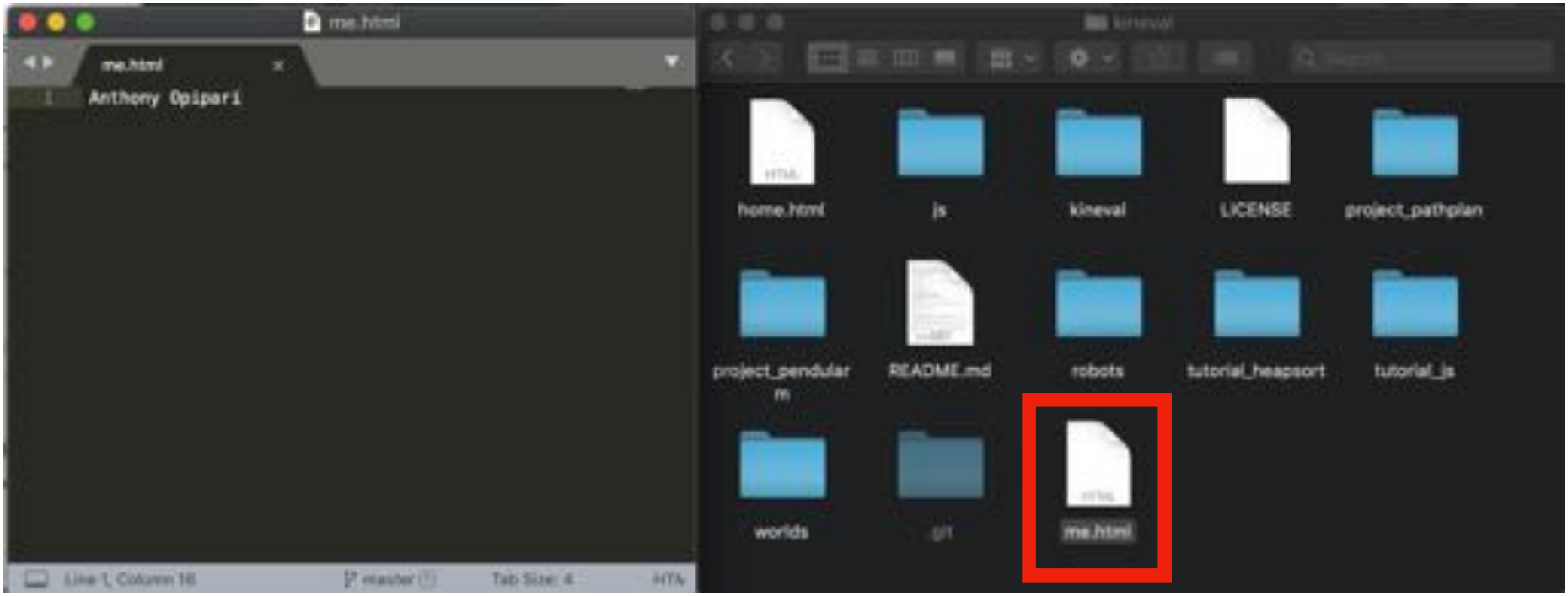


10) Add “me.html” to your local repository

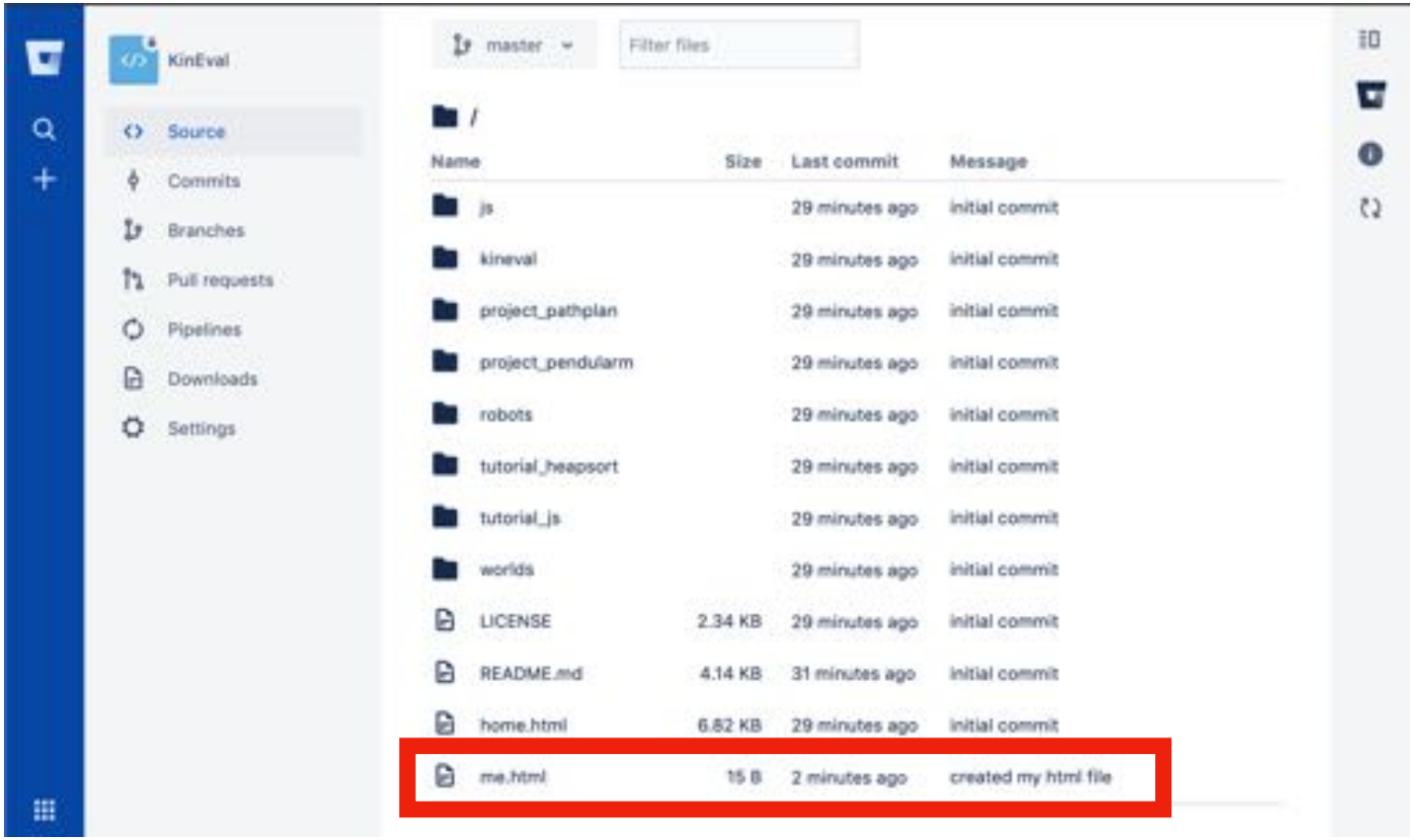
```
cd <your repository directory>
git add *
```

11) Commit and push “me.html” to your remote repository

```
git commit -a -m “created my html file”
git push
```

```
tpos-MacBook-Pro:kineval student$ git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 299 bytes | 299.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
To https://bitbucket.org/AutoRobStudent/kineval.git
   8d4a274..c9a80ac  master -> master
```

12) Check webpage for remote repository to see changes online



HTML Practice

13) Create the “me” directory within your local workspace

```
cd <your repository directory>
mkdir me
```

14) Copy a picture that best represents you to “me/me.png”

```
cp <picture_location> me/me.png
```

15) Add the following to “me.html” to your local repository

```
<img src=“me/me.png>
I am an awesome student. I’m most excited about:
<script>
console.log(Array(16).join("wat"-1)+" Batman!”)
</script>
```

16) Open “me.html” in a web browser and open web console

13) Create the “me” directory within your local workspace

```
cd <your repository directory>
mkdir me
```

14) Copy a picture that best represents you to “me/me.png”

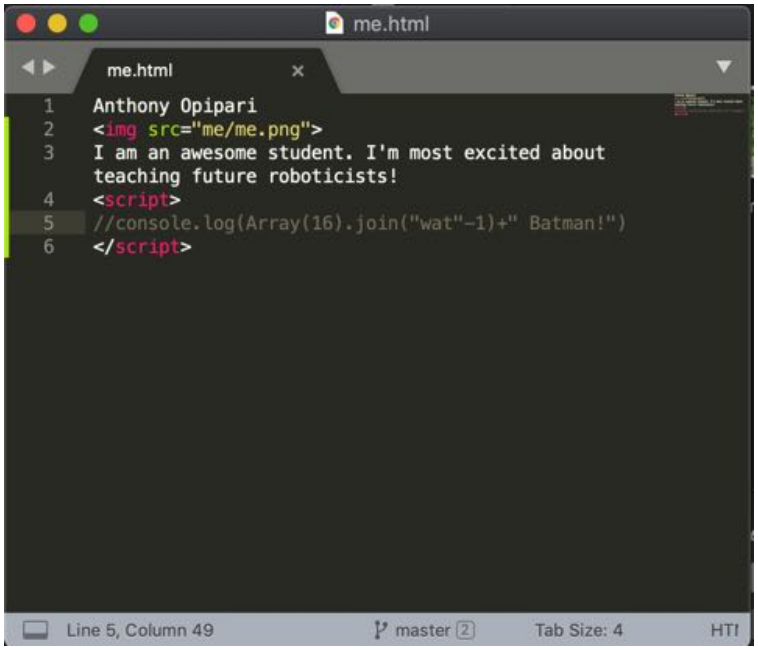
```
cp <picture_location> me/me.png
```

```
tpos-MacBook-Pro:~ student$ cd Documents/AutoRob/bit/kineval/
tpos-MacBook-Pro:kineval student$ mkdir me
tpos-MacBook-Pro:kineval student$ cp ~/Documents/me.png me/me.png
tpos-MacBook-Pro:kineval student$ ls
LICENSE                 me                      tutorial_heapsort
README.md               me.html                 tutorial_js
home.html               project_pathplan        worlds
js                      project_pendularm
kineval                 robots
tpos-MacBook-Pro:kineval student$ cd me/
tpos-MacBook-Pro:me student$ ls
me.png
```

Is that a tree!?!

15) Add the following to “me.html” to your local repository

```
<img src=“me/me.png>
I am an awesome student. I’m most excited about:
<script>
console.log(Array(16).join("wat"-1)+" Batman!”)
</script>
```



Validate Changes

17) Add the “me” directory to your local repository

```
cd <your repository directory>
git add *
```

18) Commit and push “me.html” to remote repository

```
git commit -a -m “made my html file awesome”
git push
```

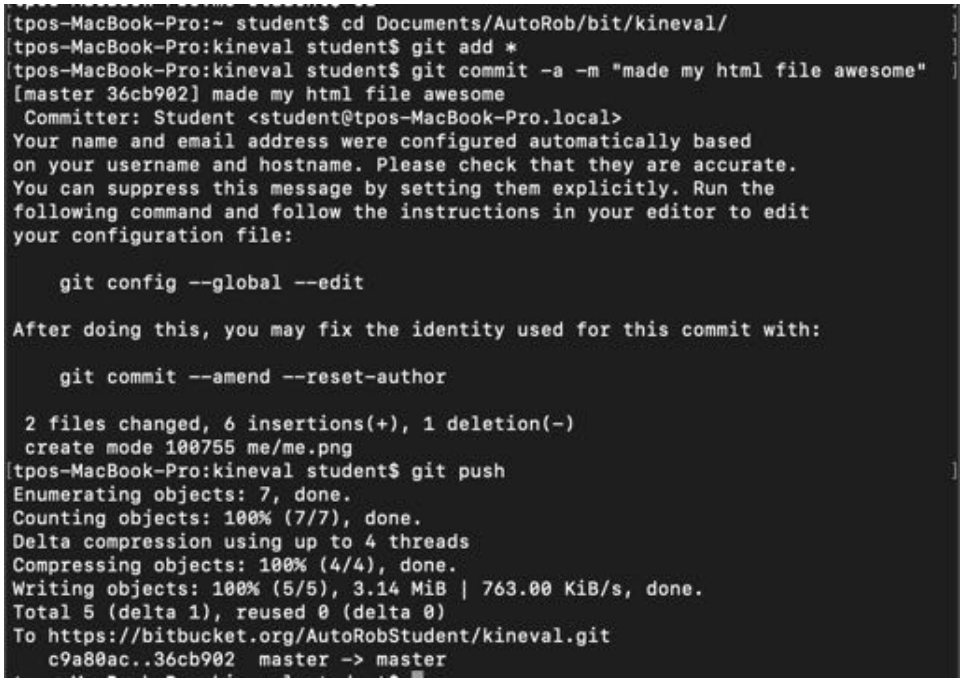
19) Check webpage for remote repository to see changes online

17) Add the “me” directory to your local repository

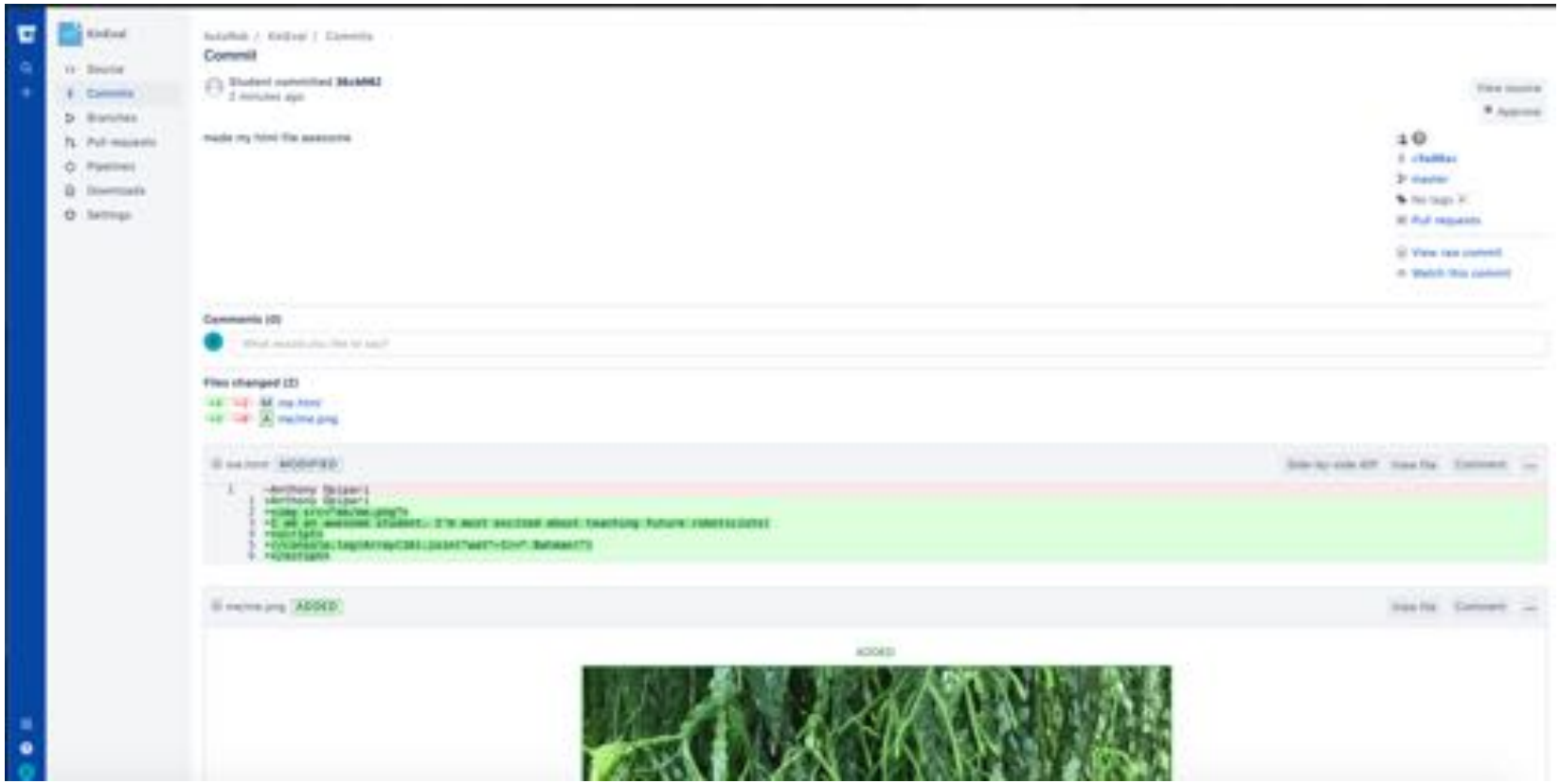
```
cd <your repository directory>
git add *
```

18) Commit and push “me.html” to remote repository

```
git commit -a -m “made my html file awesome”
git push
```



19) Check webpage for remote repository to see changes online



Validate Changes

20) Add Professor Jenkins and Anthony to your collaborators with admin privileges

Github: ohseejay and tonyop
Bitbucket: ohseejay and tonyop
EECS gitlab: ocj and topipari

20) Add Professor Jenkins and Anthony to your collaborators with admin privileges

Github: ohseejay and tonyop

Bitbucket: ohseejay and tonyop

EECS gitlab: ocj and topipari