

Welcome to The Carpentries Etherpad!

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Welcome to the Workshop!

Links

- Etherpad short URL: <https://go.wisc.edu/9kebg3>
 - (directs to <https://pad.carpentries.org/2025-03-24-uwmadison-intermedpython>)
- Workshop materials: <https://carpentries-incubator.github.io/python-intermediate-development/>
 - Short link: <https://go.wisc.edu/25b580>
- Data Science Hub's office hours ("Coding Meetup"):
<https://hub.datascience.wisc.edu/consultation/#dropin>
- Slides
 - Intro slides: <https://docs.google.com/presentation/d/1VMHEfjH-V0YsUbvDxVnjrUH9R6RlIOhjhLcpNDl0un8/edit?usp=sharing>
 - Section 4: <https://docs.google.com/presentation/d/1Xbl5zsSWjyzfBX-t9cpGYtltfFJPAxz3PrggEm-KBqo/edit?usp=sharing>
 - Post workshop slides: <https://docs.google.com/presentation/d/108-NBduAjkvMGjzPEr0dzogx82MJVrf3m6jjqNKMae/edit?usp=sharing>
- **Feedback survey:** <https://forms.gle/bcMcQzUBaUihF5Du9>
- Git+GitHub refreshers
 - GitHub Desktop tutorial (for those that like to avoid command line for git commands):
<https://uw-madison-datascience.github.io/ML-X-Nexus/Learn/Guides/Github-desktop.html>
 - Carpentries lesson on Git+GitHub: <https://carpentries-incubator.github.io/git-novice-branch-pr/>
- Lecture on reproducibility in research / data analysis: https://www.youtube.com/watch?v=0MKlmtD4zts&embeds_referring_euri=https%3A%2F%2Fuw-madison-datascience.github.io%2F&source_ve_path=MjM4NTE
- Example GitHub Action: Link Checker - <https://github.com/UW-Madison-DataScience/ML-X-Nexus/blob/main/.github/workflows/check-links.yml>
 - Used for one of our community websites: <https://uw-madison-datascience.github.io/ML-X-Nexus/>

Sign-In Day 1

Name, Program/Department/Organization. **What do you find most challenging about software development in your research?**

- Hannah Olson-Williams, population health;
- Tae-Sun Kim: Astronomy
- Elise Dietmann (she/her), Department of Surgery. My biggest challenge is that I'm slow because I'm not proficient in debugging and I don't know all of the tricks and tips to speed up my work.
- Chris Endemann, Data Science Hub, Helper/Instructor. Being able to predict the lifespan of my software and how much time-investment is needed/justified to create something more reusable/scalable.
- Robert Slater, Dept of ophthalmology, instructor/ helper. I HATE TESTING! LOL
- Khine Thant Su, Department of Medicine, helper. A lack of training like this workshop for good software development practices so our research projects are not easily scalable.
- Ryan Bemowski, Data Science Hub, Helper/Instructor. The amount of software development that must be done custom.
- Andrew Maule (he/him), Plant and Agroecosystem Sciences, Helper/Instructor. Stealing from Ryan - definitely balancing customization with trying to find tools that already do what I need to do that also are decently documented
- Caitlin Birdsong - Space Science and Engineering center. Set up
- Tracey Hey, Psychology, debugging and documenting
- Harald Kliems (he.him.his), Pediatrics/Prevention Research Center. Moving from solo to team projects.
- Blaise Enuh, Wisconsin Energy Institute. I haven't really done any formal training on software development so its been quite difficult to think about it while developing my scripts.
- Miao Yu, Psychology, i haven't had much experience in software development, I'm here to learn new skill.
- Yichen Tao, Department of Civil and Environmental Engineering.
- 'B.C.' Brendan C Dowling, Asian Languages Cultures/Language Sciences, PhD Candidate, and the most challenging may be the heavy preference for R/RStudio
- Lukas Matthews, Observer, Information Sciences
- Lydia Reimer,
- Anders Villwock, I/O Psychology,
- Ashley Hiatt, Biophysics, yes
- Ebny Walid Ahammed, Nuclear Engineering and Engineering Physics
- Mike Zenz, Student Academic Affairs L&S, robust testing
- Zihan Li, Psychology; my team is building a comprehensive pipeline for neuroimaging data analysis, the challenge is to integrate the IN/OUT to a framework adapting to different algorithms inside and to add new functionalities to the pipeline when progressing, which asks for flexibility and extensibility.
- Kritika Chopra, Plant Pathology

Please Check Your Setup

<https://carpentries-incubator.github.io/python-intermediate-development/installation-instructions.html>

Collaborative Notes

To install PyCharm in Ubuntu:

```
sudo snap install pycharm-community --classic
```

to start:

```
pycharm-community
```

If you run into issue when pushing to the remote repo in the Git-Hub Actions setting part -- "refusing to allow an OAuth App to create or update workflow .github/workflows/main.yml without workflow scope" -- it's probably caused by the scope of current Token doesn't include the workflow and need to reset this part for it (or create a new token). And then copy the token to set-url again before pushing.

Etherpad short URL: <https://go.wisc.edu/9kebg3>

Sign-In Day 2

Name, Program/Department/Organization. What is a question you have from the first day of the workshop?

- Ryan Bemowski - Data Science Hub, Instructor/Helper
- Andrew Maule (he/him), Plant and Agroecosystem Sciences, Helper/Instructor.
- Ashley Hiatt, Biophysics grad program, do you have to have everything in a venv installed on ur computer or is it like dockers where they can be self-containing?
- Caitlin Birdsong, Space Science and Engineering center, Research Staff.
- Ebny Walid Ahammed, Dept Nuclear Engineering and Engineering Physics,
- Elise Dietmann (she/her), Department of Surgery; Can you explain more why to use SSH key vs HTTPS and when/where/why to use one over the other? (also, cats or dogs, serious question)
- 'B.C.' Brendan C Dowling, Asian Languages Cultures/Language Sciences, PhD Candidate, after pycharm/vscode is there any instance where you would want to **not** use the terminal in the IDE to do all the git commands?
- Hannah Olson-Williams (she/her) pop health; how does autosave in pycharm work?
- Blaise Enuh, Wisconsin Energy Institute, No Questions for now
- Robert Slater. Dept of Ophthamology: What's the difference between a tensor and a matrix..
- Khine Thant Su, Department of Medicine. What is the difference between a virtual environment and a container in terms of software development?
- Michael Zenz, SAA L&S,
- Harald Kliems (he/him), Pediatrics/Prevention Research Center. Still getting used to the virtual environment/conda/venv etc. stuff (I'm coming from R, where package management is more straightforward)
- Zihan Li, Psychology

- Yichen Tao, Civil and Environmental Engineering
- Anders Villwock, Psychology,
- Taesun Kim, Astronomy
- Lydia Reimer, Entrepreneurship Science Lab

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Sign-In Day 3

Name, Program/Department/Organization. What is a question you have from the second day of the workshop?

- Caitlin Birdsong, Space Science and Engineering center
- Chris Endemann, Data Science Hub
- Andrew Maule (he/him), Plant and Agroecosystem Sciences, Instructor/Helper.
- Elise Dietmann (she/her), Department of Surgery; When you merge a branch into another, is that branch automatically removed, or should I leave it/remove it myself? **Cats or dogs?**
- Khine Thant Su, Department of Medicine. How do we determine what tests to perform when doing unit tests?
- Zihan Li, Psychology
- Hannah Olson-Williams, pop health,
- Yichen Tao, Civil and Environmental Engineering
- Ryan Bemowski, Data Science Hub
- Ashley Hiatt, Biophysics grad program, is it bad practice to delete a reset commit? (Does "history" exist on your local machine or does it become history when commits are pushed to repository)
- Taesun Kim, Astronomy
- 'B.C.' Brendan C Dowling, Asian Languages Cultures/Language Sciences, PhD Candidate, the question I have from the second day of the workshop may be rooted in my misunderstanding of tests, but... for tests, do people write pytest-code for the typical stats tests, like what if you dont know the underlying mathematical formulas--do you need those to know how to write pytest-code?
- Mike Zenz, L&S SAA
- Harald Kliems, Pediatrics. I managed to get my first git merge conflict and would like to learn how to clean this up...
- Lydia Reimer, ESLAB

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Sign-In Day 4

Name, Program/Department/Organization. What is a question you have from yesterday's materials (or anything covered so far)?

- Caitlin Birdsong, Space Science and Engineering center
- Chris Endemann, Data Science Hub
- Ryan Bemowski, Data Science Hub
- Andrew Maule (he/him), Plant and Agroecosystem Sciences, Helper/Instructor.
- Khine Thant Su, Department of Medicine. Are there guidelines on how often you should commit your changes to a github development branch? Can there be such a thing as too many commits?
- Yichen Tao, Civil and Environmental Engineering
- Elise Dietmann (she/her), Department of Surgery; when do you use object-oriented code vs. non-object-oriented code?
- Ashley Hiatt, biophysics grad program, how would one organize related git projects (like organizing unrelated projects under a lab group?)
- Mike Zenz, L&S Student Academic Affairs
- Lydia Reimer, Entrepreneurship Science Lab
- Harald Kliems, Peds/Prevention Research Center`
- Zihan Li, Psychology
- 'B.C.' Brendan C Dowling, Chinese, Linguistics, no questions thanks