

IEEE WIE



WIE Week of Code

INSTRUCTIONS WIEWoC

CONTRIBUTION GUIDE:

WIEWoC encourages individuals to share their knowledge and ideas to develop technical skills and gain valuable experience in the field of technology. We are creating a PYTHON content repository which is full of valuable resources. Folders for different domains like Web Development, GUI, ML with Python have been created and contribution to a specific domain will go to that folder only. Inside each directory there will be subdirectories for sub-topics of that particular domain. There is a specific branch for each of the domains and participants need to contribute to that branch only. For example, if someone is contributing to Web Development or a subtopic of it, contributions to that domain should only go to that branch.

Types of contribution you can make

Any contribution you make, code is necessary.

- Documentation + Code
- Code only
- Code + Self made Video/Audio (uploaded in youtube or gdrive)

Adding new subtopics under domains

Create a folder with name of the sub topic, add your content and create PR in respective domain branch. For example you want to add subtopic JPython in GUI. Create a folder named JPython and upload in GUI Folder and create PR from gui branch.

Basics of Git and GitHub

Git & GitHub

Before we proceed, it's better to know the difference between Git and Github. Git is a version control system (VCS) that allows us to keep track of the history of our source code, whereas GitHub is a service that hosts Git projects.

We assume you have created an account on Github and installed Git on your System.

Now enter your name and E-mail (used on Github) address in Git, by using following command.

```
$ git config --global user.name "YOUR NAME"
```

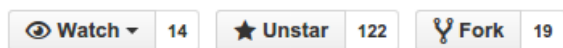
```
$ git config --global user.email "YOUR EMAIL ADDRESS"
```

This is an important step to mark your commits to your name and email.

Fork a project

You can make a copy of the project to your account. This process is called forking a project to your Github account. On Upper right side of project page on Github, you can see -

Click on fork to create a copy of project to your account. This creates a separate copy for you to work on.



Clone the forked project

You have forked the project you want to contribute to your github account. To get this project on your development machine we use clone command of git.

```
$ git clone https://github.com/IEEE-WIE-VIT/WIE-WoC.git
```

Now you have the project on your local machine.

Add a remote (upstream) to original project repository

Remote means the remote location of project on Github. By cloning, we have a remote called origin which points to your forked repository. Now we will add a remote to the original repository from where we had forked.

```
$ cd <your-forked-project-folder> $ git remote add upstream https://github.com/IEEE-WIE-VIT/WIE-WoC.git
```

You will see the benefits of adding remote later.

Synchronizing your fork

Open Source projects have a number of contributors who can push code anytime. So it is necessary to make your forked copy equal with the original repository. The remote added above called Upstream helps in this.

`$ git checkout main $ git fetch upstream $ git merge upstream/main $ git push origin main`

The last command pushes the latest code to your forked repository on Github. The origin is the remote pointing to your forked repository on github.

Create a new branch for a feature or bugfix

Usually, all repositories have a main branch that is regarded to be stable, and any new features should be developed on a separate branch before being merged into the main branch. As a result, we should establish a new branch for our feature or bugfix and go to work on the issue.

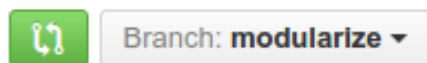
`$ git checkout -b <feature-branch>` This will create a new branch out of master branch. Now start working on the problem and commit your changes.

`$ git add --all $ git commit -m "<commit message>"` The first command adds all the files or you can add specific files by removing -a and adding the file names. The second command gives a message to your changes so you can know in future what changes this commit makes. If you are solving an issue on original repository, you should add the issue number like #35 to your commit message. This will show the reference to commits in the issue.

Push code and create a pull request

You now have a new branch containing the modifications you want in the project you forked. Now, push your new branch to your remote github fork.

`$ git push origin <feature-branch>` Now you are ready to help the project by opening a pull request means you now tell the project managers to add the feature or bug fix to original repository. You can open a pull request by clicking on green icon –



Remember your upstream base branch should be main and source should be your feature branch. Click on create pull request and add a name to your pull request. You can also describe your feature.

Amazing! You've already made your first contribution.

BE OPEN FOR US TO CONTACT YOU!

Happy Coding !!

DOMAINS:



An illustration showing three people interacting with a large digital screen. One person is sitting at a desk with a laptop, another is standing and pointing at the screen, and a third is standing and holding a large orange folder. The screen displays the Python logo and various code snippets. The background is dark blue with glowing green lines.

WEB DEVELOPMENT WITH PYTHON

| PYTHON WEB FRAMEWORKS: | PYTHON WEB LIBRARIES: |
|------------------------|-----------------------|
| Django | Scrapy |
| Flask | Zappa |
| Pyramid | Requests |
| Web2Py | Dash |
| Turbogears | |

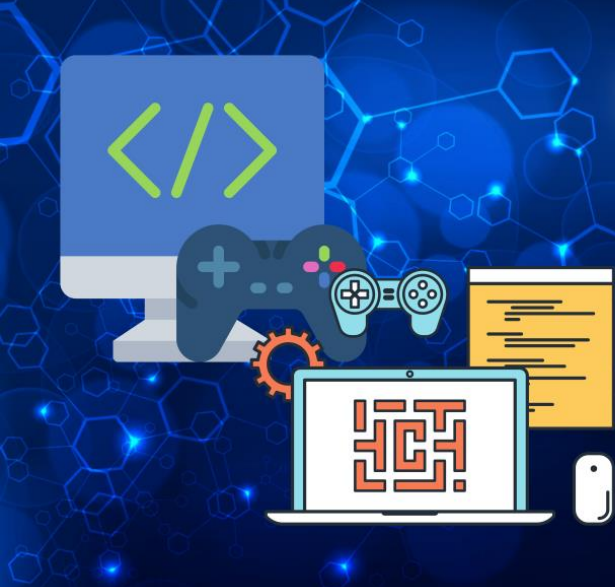


An illustration showing a person's hands typing on a keyboard in front of a large monitor. The monitor displays a code editor with Python code. The background is dark blue with glowing green lines.

GUI DEVELOPMENT WITH PYTHON

PYTHON TOOLKITS:

- Tkinter
- PyQt
- wxPython
- JPYthon



A graphic for 'Game Development with Python' featuring a blue background with a hexagonal pattern. It includes icons for a computer monitor with code symbols, a game controller, a laptop with a maze, a document, and a mouse.

GAME DEVELOPMENT WITH PYTHON

pygame library
arcade library

Embedded Development:
MicroPython
CircuitPython
BBC micro:bit
pyboard
Raspberry Pi



A graphic for 'Machine Learning in Python' featuring a blue background with a cityscape and various icons like a funnel, lightbulb, and gears. The text 'Machine Learning in python' is prominently displayed.

MACHINE LEARNING WITH PYTHON

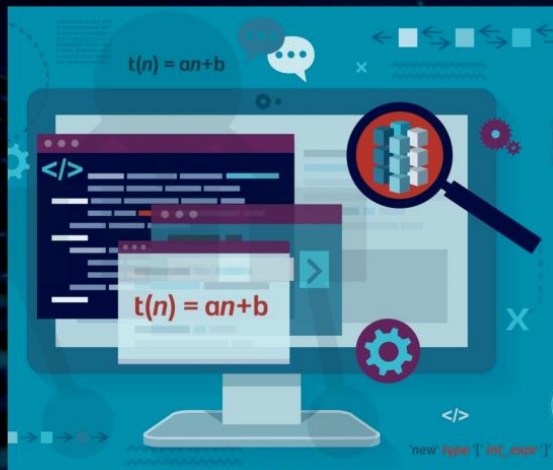
PYTHON ML/DL LIBRARIES:

| | |
|---------|------------|
| Numpy | Tensorflow |
| Pandas | Keras |
| Sklearn | |
| Scipy | |
| Seaborn | |

ML Notebooks: Jupyter / Google colab



A small image of a white robot head with large eyes, looking forward.



DSA CODING WITH PYTHON

Data Structures and Algorithms
in Python.

Coding in Python.

OOPs concepts in Python.

Image Processing in Python



IMAGE PROCESSING WITH PYTHON

Python Toolkit
OpenCV
Scikit-Image
Scipy
Python Image
Library(Pillow/PIL)
Matplotlib
SimpleITK
Numpy



DATA SCIENCE WITH PYTHON



PYTHON TOOLKITS:

Matplotlib

Numpy

Pandas

Scikit-learn

Seaborn

Scrapy

PyDot

PyBrain

Theano

Code of Conduct

Read it carefully and fill in the details:

- Do not harass or insult other members. If such actions are reported to the organizers, then actions will be taken against the guilty. This includes threats, internet attacks, gender-based insults, and cyberbullying.
- Do not spam. Spamming is posting several messages at the same time. If any member is found spamming on this server, then he/she will face severe consequences. Spamming includes excessive caps, copy-pastes, picture/meme/link/GIF spam, reaction spam, and walls of text. Do not promote other Discord servers and any YouTube videos.
- Any promotional activity is not permitted without notifying the organizers.
- Every channel in the WIEWoC server is created for specific purposes. Make sure you convey the message in the right channel. Always keep within the designated topic of every channel.
- You can post your queries regarding the program only in the **#ask-all-doubts** **#all-discussion** **#discuss-with-mentor** channel of the server.
- If any participant leaves the program at any time before the conclusion on March 3rd 2022, then he/she will not be allowed to continue with the program.
- One cannot create official or unofficial groups on Whatsapp, Signal, Telegram, and other social networking apps without the permission of the organizers.
- One cannot be disrespectful to other team members, organizers, sponsors, admins, mentors, and industry professionals.
- One cannot personally text anyone other than the team members without prior permission.
- You are expected to have a patient and a motivating nature throughout the program as that's what open source is about.
- Always maintain good behavior by respecting your fellow teammates, mentors, admins, and the Organizing member.
- Strict adherence to the rules is advised. Any participant found violating the above guidelines will face necessary action and may be banned from the discord server of WIEWoC.