



THE CI COMPASS FELLOWSHIP PROGRAM (CICF)



PROGRAM GOALS

Broaden undergraduate student participation in CI research, development, deployment, and operations.

Student Fellows will:

- Learn about CI development and MFs
- Develop CI-related skill sets important to the work of MFs
- Engage with CI Compass and MF personnel
- Participate in an optional/invited summer program to apply the skills learnt for a particular MF project

SPRING PROGRAM (Virtual)

Technical Skills Component

- Learn technical skills relevant to CI (basic software development, programming for scientists, systems, ML/AI relevant to CI and MFs)

Data Lifecycle Component

- Learn about the importance and context of MFs, the related data lifecycle, and CI
- Engage with guest speakers from MFs and CI community

2024 Schedule	Technical Skills Component	Data Lifecycle Component
Week 1	Welcome to the program, orientation, Major Facilities, cyberinfrastructure, and the data lifecycle	Command Line
Week 2	Overview of scientific computing	Guest Speaker from the Texas Advanced Computing Center (TACC)
Week 3	Scientific computing, Python, Jupyter, Python Data Analysis Packages	FAIR Data
Week 4	Best Practices in Software Development, Part 1	Guest Speaker from MagLab
Week 5	Best Practices in Software Development, Part 2	Major Facilities and the Data Lifecycle
Week 6	Cloud Computing, Part 1	Guest Speaker from ORCID
Week 7	Cloud Computing, Part 2	Major Facilities and the Data Lifecycle
Week 8	Spring Break	Spring Break
Week 9	Software Architecture and Systems; Digital Archives	Guest Speakers from OOI and NEON
Week 10	Data Workflows	Professional Skills, Networking
Week 11	Machine Learning (Classical)	Neural Networks
Week 12	Group Presentation Day 1	Group Presentations Day 2

DLC RESEARCH PROJECT

In groups, students research a specific MF to learn about its science mission, CI, and data lifecycle (DLC).

- Past students researched the DLC of RCRV, NCAR, NSO, TACC, MagLab, OOI, and CHES
- Students present their research to their peers, CI Compass, and MF CI practitioners at the end of the Spring Program



SUMMER PROGRAM (Virtual or On-Site)

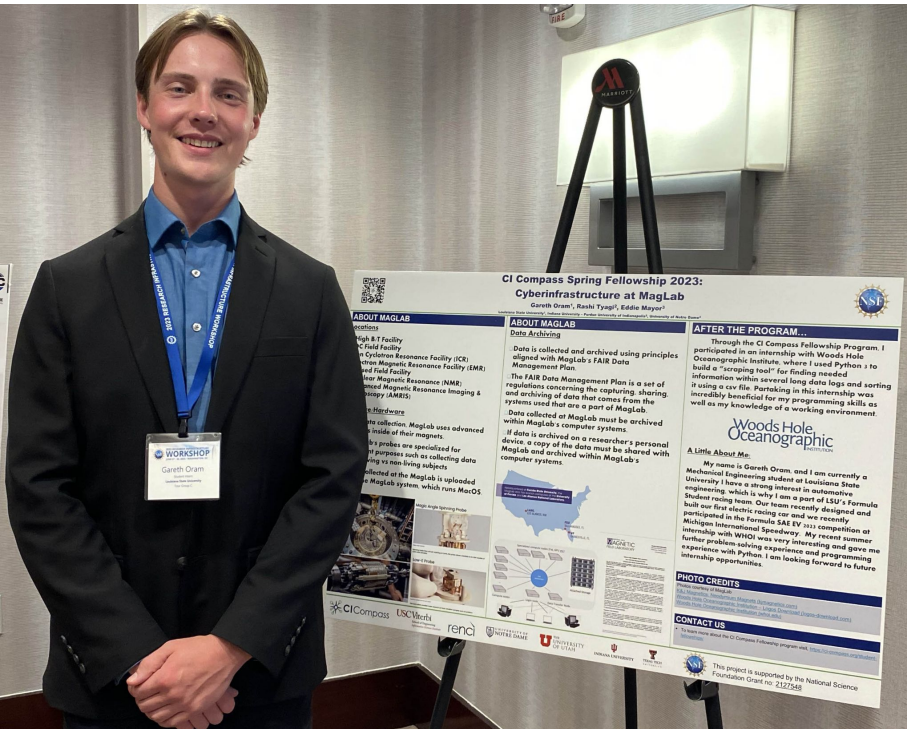
Fellows may apply for an optional, invited, and paid Summer Program to gain hands-on experience.

2022 CICF Summer Program (PILOT)

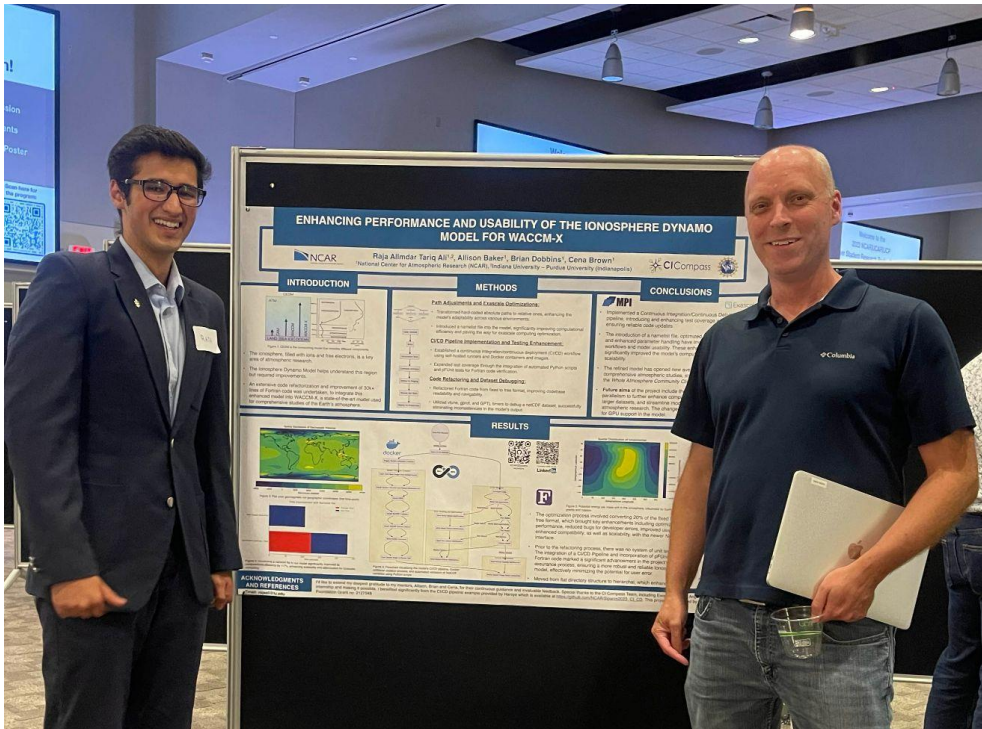
- Students worked with Chameleon Cloud, Pegasus, and HTCondor to classify lake zooplankton

2023 CICF Summer Program

- Five students with NCAR/NEON and 2 students with OOI



Gareth Oram, CICF 2023, with his poster about his internship with OOI at the 2023 National Science Foundation Research Infrastructure Workshop.



Raja Ali, CICF 2023, and Brian Dobbins, Sr. Software Engineer at NCAR, stand in front of Ali's final poster in 2023 at NCAR.



CICF facilitator Rajiv Mayani works with Student Fellow Nona Nersisyan, CICF 2022, at USC's Information Sciences Institute in the summer of 2022.



CICF Student Fellows Edward Lin, Mahee Shah, and Raja Allmdar Tariq Ali in Boulder, Colorado, where they spent Summer 2023 working with NCAR.

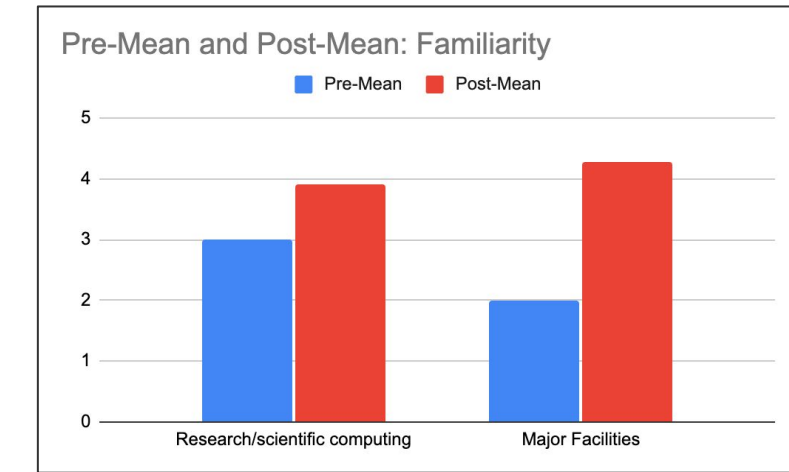
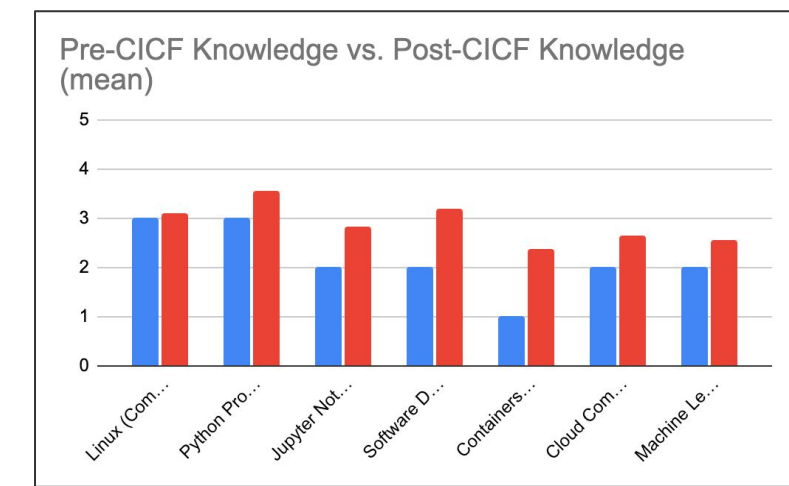
CICF IMPACT

2022 CICF Program (PILOT)

- Six student fellows participated from two institutions

2023 CICF Program

- Fourteen student fellows participated from nine institutions
- Six majors and spanned from 1st years through 5th years
- Eight female and 6 male students; 3 first-generation



Testimonials from Student Fellows

"As a result of my participation in the program, I am now more eager than ever to explore opportunities in scientific computing and cyberinfrastructure."

"I knew nearly nothing about major facilities coming into this program. I left knowing so much and wanting to continue researching. I didn't think I was interested in scientific computing until this program."

2024 PROGRAM

2024 Student Fellows

- 128 applicants from over 50 institutions
- Accepted 20 student fellows from 17 institutions, including HSI/MSIs and community colleges, from 11 states
- Nine female, 10 male, and 1 non-binary student
- Eight majors spanning from 1st years through 5th years

2024 Spring Program

- January 23rd - April 11th

2024 Summer Program

- Students will be placed at NCAR, OOI, MagLab, NSO, Globus/University of Chicago, and UNDERC

WAYS TO GET INVOLVED

Major Facilities can engage in many ways, including:

- Provide feedback on the program structure and content
- Participate as a guest speaker during the Spring Program
- Provide Summer opportunities for students
- Spread the word to students, faculty, or others who may be interested.

To learn more about the CI Compass Fellowship program visit, <https://ci-compass.org/student-fellowships/> or email us at cicf@ci-compass.org.



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