

# TIMESTEP Astronomical Software Engineering Internship Program

The Event Horizon Telescope (EHT) is an international collaboration combining many radio telescopes around the world to observe black holes at event-horizon resolution. The scale and complexity of EHT observations require advanced software solutions for efficient data processing, calibration, and imaging. This internship provides a unique opportunity to contribute to the automation and optimization of EHT's data pipelines, directly impacting the next generation of black hole science.

## Program details:

- Runs August 2025 through May 2026
- Accepting students who will be in their 3<sup>rd</sup> or 4<sup>th</sup> year of study (or equivalent)
- Preference to students with an astronomy major or minor.
- Qualifications:
  - Proficiency in Python with experience in scientific computing and/or data processing.
  - Familiarity with version control software such as Git.
  - Interest in CI/CD or willingness in developing automated software pipelines.
  - Interest in large-scale data analysis using complex astronomical datasets.
  - Interest in developing best practices in AI-assisted software development.
  - Strong problem-solving skills and ability to work in a collaborative research environment.
- Pay is for up to 10 hours per week at \$22.50 per hour.

## Responsibilities and Benefits:

### Responsibilities:

- Develop and enhance data processing, calibration, and imaging algorithms.
- Implement automation strategies to improve the efficiency of large-scale data analysis.
- Utilize AI-assisted tools (e.g., GitHub Copilot, ChatGPT) to improve code quality and documentation.
- Optimize cloud-based workflows using Kubernetes and distributed computing.
- Collaborate with experts in radio astronomy and Very Long Baseline Interferometry (VLBI).

### Benefits:

- Direct involvement in a major astrophysical research initiative.
- Learn and apply software engineering best practices in real science projects.
- Hands-on experience with high-performance computing, AI-driven development, and cloud infrastructure.
- Collaboration with leading scientists and engineers in the field of black hole research.
- Opportunity to contribute to pioneering advancements in observational astrophysics.

**\*\*This internship offers a rare intersection of astrophysics, software engineering, and AI-driven automation. Candidates with a passion for scientific discovery and computational innovation are encouraged to apply.\*\***

**Applications open Wednesday, April 16<sup>th</sup> and close at midnight Sunday, May 25<sup>th</sup>**

For Application Information, resources, and online application link go to [TIMESTEP Astronomical Software Engineering Internship](#). More information at [timestep.arizona.edu](https://timestep.arizona.edu). Reach out to us at [timestep@arizona.edu](mailto:timestep@arizona.edu) with any questions.

