



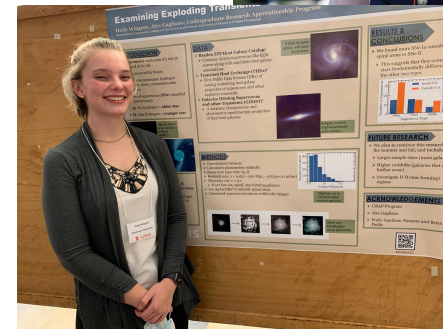
US CMS PURSUE Summer Internship 2022

Holly Wingren



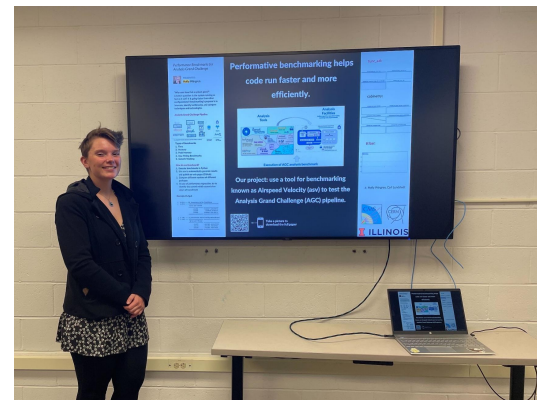
About Me

- School: University of Illinois Urbana-Champaign (Champaign, IL)
- Year: 4th
- Major: Astronomy and Physics
- Minor: Applied Statistics
- Research Interests: Supernovae, Exploding Transients
- Home town: Crescent City, IL
- Extras: Phi Sigma Rho STEM Sorority, Marching Illini, InterVarsity



My Project - Performance Benchmarks for Analysis Grand Challenge

- Under the direction of Carl Lundstedt from the University of Nebraska Lincoln
- Used pieces of an example physics analysis to study the performance of different system components of the Analysis Grand Challenge pipeline by IRIS-HEP
- Analyzed data obtained from the CMS experiment at the Large Hadron Collider (LHC) located at CERN, Switzerland using the coffea-casa analysis facility
- Used a tool for benchmarking known as Airspeed Velocity (asv) to test the AGC pipeline to ensure code was running at maximum performance
- Improved my skills with UNIX, Python, Git, coffea





My Takeaways & Skills Gained

- Networking
 - Interesting talks and seminars
- Real world research experience
 - Computational tools and data-science methods + fundamental particles and their interactions
 - Classroom knowledge → Applications
 - Collaborating with CERN, IRIS-HEP, Fermilab, Coffea teams
- Computer science/coding skills
- Confidence in approaching independent research
- Remote flexibility, but in person would have its benefits too