



PAWR Project Office

Composable Edge-to-HPC Workflows for Reproducible Scientific AI

Hari Subramoni - ARA

The poster will present state-of-the-art cyberinfrastructure from the NSF ICICLE AI Institute that supports end-to-end scientific AI workflows across distributed data collection, geospatial curation, image preprocessing, interactive annotation, workflow orchestration, Tapis/HPC execution, edge deployment, and visualization. The platform is currently used by researchers and industry partners in agriculture, ecology, and materials science, and will be presented as a composable systems approach for connecting interactive scientific workflows with distributed edge devices and centralized computing resources. The poster will highlight representative cross-domain workflows and identify research opportunities for PAWR testbeds, including network-aware workload placement, data movement, reproducibility, observability, and reliable edge-to-HPC AI operation.