College of Information Sciences and Technology (IST) Facilities
2025-2027

The primary facilities available to researchers in the College of IST include our building infrastructure and our computing resources.

Buildings

Our physical spaces allow researchers secure and modern facilities for conducting research, hosting meetings, and teaching classes through with research findings are disseminated. Our buildings include:

1. **Westgate Building:** A 190,000+ square-foot facility housing the Cybertorium, instructional and research labs, research clusters, faculty offices, and administrative space.
2. **Penn State Innovation Hub (PSIH):** An 85,000-square-foot, six-story building offering makerspaces, a virtual-reality lab, student club storage, and collaborative areas that support innovation, commercialization, and startup development. It also includes administrative space, faculty offices, and research labs.

Computing Infrastructure

The College of IST has several GPU resources that are available to all faculty. These high-performance machines are designed to facilitate computational tasks, particularly those requiring GPU acceleration, such as AI, deep learning, and data-intensive simulations. Given the shared nature of these resources, all users must approach their usage with mindfulness and consideration for others, ensuring fair and equitable access.

All three HPC servers—*DGX1*, *GPU01*, and *GPU02*—are running Ubuntu 22 and support current versions of Nvidia drivers and CUDA, providing a consistent and robust environment for GPU-accelerated research. Users are expected to perform all work within their home directories, compiling any necessary resources that are not universally installed on the servers. This approach ensures that the shared environment remains stable and accessible to all, minimizing conflicts and preserving the system's integrity for all users.

Server Specifications

gpu02.ist.psu.edu	gpu01.ist.psu.edu	dgx1.ist.psu.edu
• 2 Intel Xeon Emerald Rapids processors, each with 64 cores • 2TB of 4800MT/s RAM • 8 NVIDIA H100 80GB HBM3 GPUs • 100TB NVMe local storage for data processing	• 4 AMD EPYC 7643 processors, each with 48 cores • 1TB of 4800MT/s RAM • 8 NVIDIA A100-SXM4-80GB GPUs • 84TB local storage for data processing	• Intel Xeon E5-2698 processors, each with 20 cores • 8 NVIDIA Tesla V100-SXM2-32GB GPUs • 512GB of 2133MT/s RAM • 20TB local storage

Faculty that require more specialized resources and choose to purchase a server for research, will have the system housed in a climate controlled and power redundant data center. Professional IT staff will maintain the infrastructure and cybersecurity consistent with university policy to avoid interruption of service.

The college also maintains a robust virtual machine infrastructure that is available for handling lighter workloads. Resources are allocated as appropriate for the research requirements. Virtual machines are managed by professional IT staff to maintain the infrastructure and cybersecurity consistent with university policy.

Faculty also have access to the computing facilities offered by Penn State's Institute for Computational and Data Sciences (ICDS). Information about their resources are available at https://icds.psu.edu/services/roar/.