



ISLAMIC UNIVERSITY OF SCIENCE & TECHNOLOGY CENTRE FOR ARTIFICIAL INTELLIGENCE

HIGH PERFORMANCE COMPUTING LAB

1. HEAD NODE:

- CPU: 2 X INTEL XEON GOLD 3.1G, 20CORES/ 40 THREADS
- RAM: 1TB (16 X 64 GB) DDR4 RAM
- STORAGE:
1920GB(2 × 960 GB SSD)
24TB(6 X 4 TB @7.2K RPM NLSAS)

2. COMPUTE NODE (3 NO'S):

- CPU: 2 X INTEL XEON GOLD 3.1G, 20CORES/40 THREADS
- RAM: 512GB (8 X 64 GB) DDR4
- STORAGE: 1920GB (2 X 960 GB SSD)

3. HIGH-END NODE (3 NO'S)

- CPU: 2 X INTEL XEON GOLD 2G, 32CORES/64 THREADS
- RAM: 1TB (16 X 64GB) DDR4
- GPU: 4 X NVIDIA A100 80 GB
- CPU: 2 X INTEL XEON GOLD 2G, 32CORES/64 THREADS
- 512GB (8 X 64GB) DDR4
- GPU: 4 X NVIDIA L40 48 GB
- STORAGE: 1920 GB (2 X 960 GB SSD)

4. GPU NODE (3 NO'S):

- CPU: 2 X INTEL XEON GOLD 3.1G, 20CORES/40 THREADS
- RAM: 512GB (8 X 64 GB)
- STORAGE: 1920GB (2 X 960 GB SSD SATA)
- GPU: NVIDIA TESLA V100 32 GB

5. 160TB HIGH PERFORMANCE PARALLEL FILE SYSTEM:

- IONODE: 2 X INTEL XEON GOLD 3.1G, 20CORES/40 THREADS
- RAM:128GB (4 X 32 GB)
- TARGET STORAGE:960GB (2 X 480 GB SSD SATA)
240TB(60 X 4 TB HDD @ 7.2K SAS)
5.4TB(3 X 1.8 TB HDD @ 10K SAS)

6. SOFTWARE:

- OS: CENTOS/ROCKY LINUX
- SCHEDULER: SLURM JOB SCHEDULER
- CLUSTER MANAGEMENT SOFTWARE: SAMOOH
- FILE SYSTEM: PFS (LUSTRE)

7. INTERCONNECT:

- PRIMARY: MELLANOX 100 GB/S
- SECONDARY: ETHERNET 1 GB/S
- MANAGEMENT: ETHERNET 1 GB/S FOR IDRAC

HPC at a Glance	
Total No. Of Compute Cores	432
Cuda Cores	115712
Tensor Cores	1640
Total No of GPU's	11
Available PFS Storage	160TB
Performance CPU	51.15 Tera Flops
Performance GPU	382.1 Tera Flops

