## Nano cluster

### System Description

**Host name:** nano.ncsa.illinois.edu

**Hardware**
- SuperMicro SYS-4028GR-TR
- X10DRG-O+-CPU motherboard
- 128 GB DDR4 (8x 16 GB Micron 2133 MHz 36ASF2G72PZ-2G1A2)
- 8 PCI-E 3.0 ports, switched
- Mellanox MT27500 Family [ConnectX-3] QDR IB
- 1x 256 GB Samsung SSD 850

**Software**
- CentOS 7
- CUDA 9.2/10.0
- PGI 16.10
- Intel ICC 16
- gcc 4.8
- gcc 5.3 via `scl enable devtoolset-4 bash`

To request access, please fill out this form.

**Instructions** for running Jupyter Notebooks on compute nodes

**Usage notes:**
- nano (141.142.204.5) is the head node of the cluster. It should not be used for any computations!
- To connect to the cluster, ssh username@nano.ncsa.illinois.edu
- To get access to a particular node for interactive use, use `qsub`, e.g.,
  - To get one GPU and one CPU core on node 7 for 1 hour for interactive use:
    ```
    qsub -I -l nodes=nano7:ppn=1: gpus=1,walltime=3600
    ```
  - To get entire node 1 for 1 hour for exclusive interactive use:
    ```
    qsub -I -l nodes=nano1: ppn=12,walltime=3600
    ```
- To see what's running on the cluster, just run `qstat`
- This is a shared resource, please keep in mind that other users are using it as well; do not take over the system beyond what you really need.
- Home directory is cross-mounted and accessible from all nodes.
- **Current System Status:** [https://nano.ncsa.illinois.edu:3000/d/3QVrDIFmz/nano-status](https://nano.ncsa.illinois.edu:3000/d/3QVrDIFmz/nano-status)

**DL frameworks**
- TensorFlow 1.10

**Node configuration (see login message for the exact configuration):**

<table>
<thead>
<tr>
<th>nano1</th>
<th>nano2</th>
<th>nano3</th>
<th>nano4</th>
</tr>
</thead>
</table>

Contact us

Request access to ISL resources: Application

Contact ISL staff: Email Address

Visit: NCSA, room 3050E
<table>
<thead>
<tr>
<th></th>
<th>nano5</th>
<th>nano6</th>
<th>nano7</th>
<th>nano8</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel Xeon E5-2620 v3 @ 2.40GHz</td>
<td>Intel Xeon E5-2620 v3 @ 2.40GHz</td>
<td>Intel Xeon E5-2620 v3 @ 2.40GHz</td>
<td>Intel Xeon E5-2620 v3 @ 2.40GHz</td>
</tr>
<tr>
<td>GPU</td>
<td>2x NVIDIA P100 GPUs</td>
<td>2x NVIDIA P100 GPUs</td>
<td>4x NVIDIA P100 GPUs</td>
<td>2x NVIDIA P100 GPUs</td>
</tr>
<tr>
<td></td>
<td>3584 cores</td>
<td>3584 cores</td>
<td>3584 cores</td>
<td>3584 cores</td>
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<tr>
<td></td>
<td>16 GB HBM2</td>
<td>16 GB HBM2</td>
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<tr>
<td></td>
<td>CUDA 9.2</td>
<td>CUDA 9.2</td>
<td>CUDA 9.2</td>
<td>CUDA 9.2</td>
</tr>
</tbody>
</table>

(use this node for all non-GPU jobs)