**Project Name:**

*Super Computing on the go: Multi-Level MapReduce on mobile GPU cluster*

**Objectives:**

NVIDA’s release of first embedded supercomputer the Jetson tk1 marks a new era of supercomputers. We intend to make a CUDA aware MPI cluster of Jetson tk1 and use it for big data processing. Google’s MapReduce is currently the best algorithm for big data processing on commodity clusters. We intend to write a variant of MapReduce for a mobile cluster of embedded supercomputers.

**Methodology:**

We have divided our work into three phases.

1. In first phase we intend to write a MapReduce variant to exploit the parallelism within one Jetson tk1.
2. In the second phase we intend to make a CUDA aware MPI cluster of Jetson tk1.
3. In the third we intend to further expand our framework to exploit the parallelism in the cluster among the nodes.

**Resources:**

We need following resources.

* 7 Jetson tk1
* Gigabit Ethernet switch
* Sata hard drives