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### Research Area: Computational Sciences

The Open Source Cluster Application Resources (OSCAR) is a fully integrated software stack designed for the building, maintaining, and using a Linux cluster for high performance computing. Within the past few years, new variants of OSCAR, namely HA-OSCAR, SSS-OSCAR, SSI-OSCAR, and thin-OSCAR evolved addressing respectively, high-availability, Scalable Systems Software, Single System Image, and diskless-based clusters. The focus of my research will be HA-OSCAR.

#### Specific subtasks:

1. Build an OSCAR cluster consisting of 2-4 workstations
2. Benchmark the constructed OSCAR cluster using basic linear algebra subroutines (BLAS)
3. Upgrade the constructed OSCAR cluster to include high availability (HA-OSCAR) with 2 "head" nodes
4. Benchmark the constructed HA-OSCAR cluster using BLAS
5. Prepare an updated HA-OSCAR user's guide

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