**INITIAL PROPOSAL**

Start Date: September/2019 End Date: June/2020

RCT

1. Learned and play with EnTK and RP locally and on HPCs 🗸

HPO (3-4 months)

0.a Learned and play with HyperSpace locally and on HPCs 🗸

0.b Relaxation by running on top of RP?

1. Design and implementation of the library RADICAL-Learning with a certain minimum

of degrees of freedom

2. Design and perform an experiment using said library

3. Package and upload RADICAL-Learning

Containers (1 month)

0 Learned and played with Docker, Singularity and Boutiques locally and on HPCs 🗸

1. Presentation on Tuesday (Jan 28th) to update on results of initial

experimentation

2. Performance characterization running Gromacs as a containerized MPI application

FACTS (1-2 months)

0.a Ran simple “FACTS modules” on Bridges 🗸

0.b Packaging of repo 🗸

1. Define initial set of unit tests

2. Benchmark framework performance

3. Transition to Python 3

Convergence (4-5 months)

- Utilizing HyperSpace as the base structure, improve and expand into

RADICAL-Learning with the goals of running containerized bag-of-tasks of

optimizations this time, the ability to select different algorithms other than SMBO

(what else?)

- Utilize FACTS as a use case for RADICAL-Learning (how?)

- Write a technical report documenting all my work