Online Diagnosis of Performans Variations of HPC Systems Using Machine Learning

Boston University / Boston, MA 02215, United States

June, 8 – September, 4, 2020

Efe Şencan / Computer Science and Engineering

PROJECT OBJECTIVE & EXPECTATIONS

The goal of the project is to design and implement scalable machine learning and other statistical methods in order to make sufficient accurate predictions for HPC anomaly diagnosis framework with less labeled data.

Outcomes

1) Designed and implemented several semi-supervised learning algorithms such as self-learning, cluster then label and graph-based methods.
2) Utilized active learning to detect important applications working on HPC Sytems for anomaly diagnosis.
3) Analyzed the performance of different machine learning models with different percentage of the labeled data.
4) Combined active learning with semi-supervised methods and evaluated the performance of the models.