Paper Title : Prodigy-Towards Unsupervised Anomaly Detection in Production HPC Systems

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1.Summary

1.1 Motivation : An HPC is built for process,store, and analyze massive amounts of data where sometimes other ML-based frameworks require extensive customization. The solution is the new autoencoder-based anomaly detection framework.

1.2 Contribution : The following variational autoencoder-based anomaly detection framework was accurate 88% in detecting anomalies.

1.3 Methodology : Identify the problem with anomalies in HPC systems.The efficiency for the application performance.Measure key metrics such as recall and F1-score to assess the accuracy of prodigy in detecting performance anomalies.To collect data for applying in real world HPC environment.

1.4 Conclusion : An ease of integration with detailed analysis capabilities position Prodigy as a promising solution for enhancing the efficiency of the real-world HPC environment.

2. Limitation

2.1 First Limitation : For better outcome it only depends on quality and representativeness.false and biased dataset may affect its ability to give a diverse HPC environment.

2.2 **Second Limitation** : It might need updating on a regular daily basis for optimal performance because it might have some limitations in evolving HPC technologies.

3. **Synthesis** : Prodigy is an autoencoder-based anomaly detection framework for addressing performance issues in HPC.It's an powerful solution for enhancing the performance of production HPC environments.