Anomaly Detection in Microservice Systems Using Autoencoders

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Abstract

The adaptation of microservice architecture has increased massively during the last few years with the emergence of the cloud. Containers have become a standard choice for microservices architecture instead of VMs (Virtual Machine) due to their characteristics such as portability and optimized re- source usage. Along with the containers, container-orchestration platforms are also becoming an integral part of microservice- based systems considering the flexibility and scalability offered by the container-orchestration platforms. With the virtualized implementation and the dynamic attribute of modern microservice architecture, it has been a cumbersome task to implement a proper observability mechanism to detect abnormal behaviour using conventional monitoring tools, which are most suitable for static infrastructures. We present a system which will be able to collect required data with the understanding of the dynamic attribute of the system and identify anomalies with efficient data analysis methods.

Keywords

Mircroservices, Kubernetes, Container, eBPF,Autoencoders, LSTM