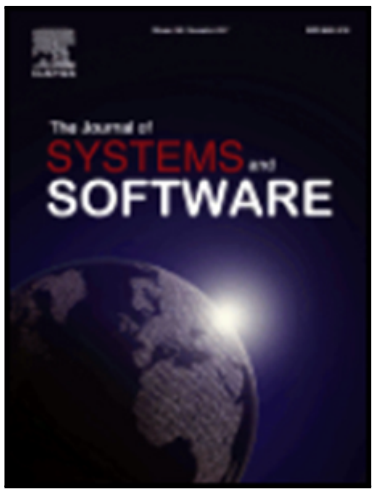


# Execution Anomaly Detection in Large-scale Systems through Console Log Analysis

Liang Bao, Qian Li, Peiyao Lu, Jie Lu, Tongxiao Ruan, Ke Zhang

PII: S0164-1212(18)30103-1
DOI: 10.1016/j.jss.2018.05.016
Reference: JSS 10162

To appear in: *The Journal of Systems & Software*

Received date: 25 August 2017
Revised date: 13 May 2018
Accepted date: 15 May 2018

Please cite this article as: Liang Bao, Qian Li, Peiyao Lu, Jie Lu, Tongxiao Ruan, Ke Zhang, Execution Anomaly Detection in Large-scale Systems through Console Log Analysis, *The Journal of Systems & Software* (2018), doi: 10.1016/j.jss.2018.05.016

**Highlights**

- A formal definition of execution anomaly detection problem through console logs
- Analyzing source code to recover the reachability structure of all log statements
- A probabilistic suffix tree based method that detects anomalies in log files
- Experiments show the performance superior of our method to four existing algorithms