# Deep Convolutional and Long Short-Term Memory Recurrent Neural Network for Anomaly Types Classification

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## Abstract

Anomaly detection and type classification problem for time series is a tedious but mush beneficial task, especially harnessing the massive amount of data generated by variable systems to create value for technology development and business strategies. By using the state-of-art machine learning techniques and deep neural networks, we propose a series of approaches to assist in focusing on detecting the most crucial types of anomalies and gaining critically insights of log information. Here we measure the accuracy of our diverse array of classification algorithms.

## 1 Introduction

To classify types of anomalies at scale, we use different combinations of techniques starting with SVM and ending with CNN and LSTM models.

## 2 Related Work

## 3 Algorithm

Let’s review discriminative algorithms from the perspective of application to finding various types of anomalies. The most suitable type of neural network working with time series is LSTM (Long Short-Term Memory) recurrent neural network, if properly built, it allows you to model the most sophisticated dependencies.

## 4 Experiments Settings

## 5 Results and Analysis

## 6 Conclusion

This area is still on-going research, and it requires a lot of work to build the model for the time series. Should you succeed, you may achieve outstanding performance results in terms of accuracy.

## Acknowledgments

## References