

- Uses a functional isolation forest to determine anomalies and an autoencoder to extract attributes from anomalous objects
- Isolation forest
 - Generates forest by selecting attributes in an arbitrary order and generating a tree for each attribute
 - Assumes that anomalies will be easy to detect and should exist fairly close to the root
- Encoder
 - Multilayer feed forward network with the same number of nodes on first and last layer
- Finding a solution
 - Isolation Forest
 - Shows empirical evidence that using solely an isolation forest is infeasible for accurately recognizing anomalous log data, but shows good results for detecting non anomalous log results.
 - Isolation forest + one autoencoder
 - Works well at separating anomalous and non-anomalous log messages, as well as extracting features that weigh heavily in likelihood of anomaly
 - Isolation forest is generated based on features that are deemed important by autoencoder
 - Isolation forest + two autoencoders
 - One pre isolation forest autoencoder finds the important features to construct forest from, the forest determines the percentage of positive predicted logs
 - Second autoencoder (post I.F.) determines thresholds for anomalous logs based on output of first autoencoder + I.F.