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(57) Abstract:

The present disclosure relates to a system 100 and method for automatic authentication of network element 112. The system 100 includes a processing unit 102 comprising a machine learning and processor 104 configured to interact with one or more network elements 112 whenever the one or more network elements try to connect to the network 108. The system further extract, based on the interaction, behaviour patterns of the one or more network elements 112. The system 100 matches the extracted behaviour patterns of each of the one or more network elements 112 with a dataset including pre-determined behaviour patterns of multiple types of network elements 112 and authenticate, based on the matching of the extracted behaviour patterns, corresponding network element 112.

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