Neural networks are artificial learning systems. For more than two decades, they have help for detecting hostile behaviors in a computer system. This review describes those systems and theirs limits. It defines and gives neural networks characteristics. It also itemizes neural networks which are used in intrusion detection systems. The state of the art on IDS made from neural networks is reviewed. In this paper, we also make a taxonomy and a comparison of neural networks intrusion detection systems. We end this review with a set of remarks and future works that can be done in order to improve the systems that have been presented. This work is the result of a meticulous scan of the literature.

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