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**Using an evolutionary neural network for web intrusion detection.** (English) [Zbl 1157.68436](#)

Gammerman, A. (ed.), Artificial intelligence and applications. Machine learning. As part of the 26th IASTED international multi-conference on applied informatics. Calgary: International Association of Science and Technology for Development (IASTED); Anaheim, CA: Acta Press (ISBN 978-0-88986-710-9/CD-ROM). 258-265 (2008).

Summary: Due to the complicated nature of detecting actual intrusions, most current network intrusion detection systems (NIDS) place the burden of distinguishing an actual attack from a large set of false alarms on the security analyst, resulting in a significant cognitive load. Artificial Intelligence combined with visualization will take advantage of human perceptual abilities and expertise to amplify cognition.

In this paper we will describe an evolutionary artificial neural network (EANN) used as the knowledge base for the classification of web attacks in a prototype system. The aforementioned system is a surveillance aid for the security analyst, offering him a user friendly visual tool to detect anomalies in web requests by exploring 3D graphs, to understand quickly the kind of undergoing attack by means of colours and afford him the possibility to navigate into the payload of the web request for further analysis and adequate response. The EANN system is an improvement of our original work that used a supervised multilayer artificial neural network (ANN) as the web attacks classifier.

For the entire collection see [[Zbl 1154.68012](#)].

**MSC:**

[68T05](#) Learning and adaptive systems in artificial intelligence

[68M10](#) Network design and communication in computer systems

**Keywords:**

[genetic algorithms](#); [EANN](#); [web attacks](#); [visual analytics](#)

**Software:**

[AMNESIA](#)