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Network Intrusion Detection Using Equality  
Constrained-Optimization-Based Extreme Learning Machines

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**Highlights**

- Applying the equality constrained-optimization-based extreme learning machine to network intrusion detection.
- An adaptively incremental learning strategy is proposed to derive the optimal number of hidden neurons.
- The optimization criteria and a way of adaptively increasing hidden neurons are developed.
- The proposed approach is effective in building models with good attack detection rates and fast learning speed.

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