

## 深度学习网络的光通信系统入侵行为识别

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**摘 要:** 为了获得高精度的光通信系统入侵行为自动识别结果, 提出了基于深度学习的光通信系统入侵行为自动识别技术. 首先采用光栅传感技术采集入侵行为信号, 然后从信号提取入侵的特征向量, 最后采用深度学习网络建立光通信系统入侵行为识别模型, 并进行了仿真实验. 结果表明, 本文方法可实现高精度光通信系统入侵行为自动识别, 降低了光通信系统入侵行为自动识别误差.

**关键词:** 深度学习; 光通信系统; 入侵行为; 识别技术

## Intrusion identification of optical communication system based on deep learning network

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**Abstract:** In order to obtain the high precision automatic identification result of the intrusion behavior of optical communication system, an automatic identification technology of the intrusion behavior of optical communication system based on deep learning is proposed. Firstly, the fiber Bragg grating sensing technology is used to collect the intrusion behavior signal, and then the feature vector of the intrusion is extracted from the signal. Finally, the intrusion behavior recognition model of the optical communication system is established by using the deep learning network, and the simulation experiment is carried out. As a result, this method can automatically identify the intrusion behavior of high-precision optical communication system and reduce the error of automatic identification of intrusion behavior of optical communication system.

**Keywords:** Deep learning; optical communication system; intrusion behavior; recognition technology; simulation experiment

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