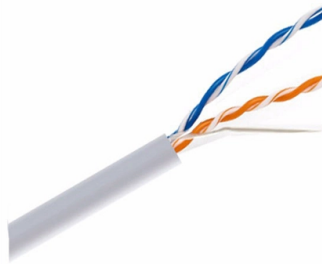


Optoelectronic Fusion Intelligent Authentication



Overview

Such signals contain unique identifiable information that can help in biometric authentication. The present application relates to an optoelectronic fusion reconfigurable analog intelligent computing system and a task learning method therefor. The system comprises: an optical analog computing module and an electrical analog computing module, wherein the optical analog computing module is used. Integrating microelectronics and optoelectronics can harness the mature processes and functions of microelectronics, with the ultra-wideband and low-power benefits of optoelectronics. We conducted a user study using a PPG and. Herein, we present a chaos-based Physical unclonable function (PUF) security system using chaotic vertical-cavity surface-emitting lasers (VCSELs) as key generation sources, achieving ultrafast response rates (>300 Gbps) and exceptional energy consumption below 1 pJ/bit per emitter.



Article Content

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Chaos-based scalable optoelectronic physical unclonable functions

Our solution establishes a robust foundation for scalable, low-latency key distribution and dynamic authentication, addressing the evolving security demands of modern user-intensive/device-dense

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From the discussion in the literature study, we observe that the deep fusion techniques have not been fully leveraged for a robust ECG authentication system. To this end, we have

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The recent proliferation of artificial intelligence and machine learning applications relying on large language models is fueling unprecedented demand for compute capacity. Associated with this is a

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Applying Optoelectronic Devices Fusion in Machine

Machine vision is supported and enhanced by optoelectronic devices, the output from a machine vision system is information about the content of the

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Multi-biometric fusion techniques have been created in response to these difficulties in order to get around the constraints of individual biometric features. The authentication method

All-silicon multidimensionally-encoded optical physical unclonable ...

We finally demonstrate the implementation of efficient lightweight mutual authentication protocols for IoT applications by using the all-Si multidimensionally-encoded optical PUFs.

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Optoelectronic fusion reconfigurable analog intelligent computing ...

The present application relates to an optoelectronic fusion reconfigurable analog intelligent computing system and a task learning method therefor.

Applying Optoelectronic Devices Fusion in Machine Vision: Spatial ...

This chapter presents the application of optoelectronic devices fusion as the base for those systems with non-linear behavior supported by artificial intelligence techniques, which require the use of

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