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REAL-TIME MONITORING OF RADIATION ANOMALIES

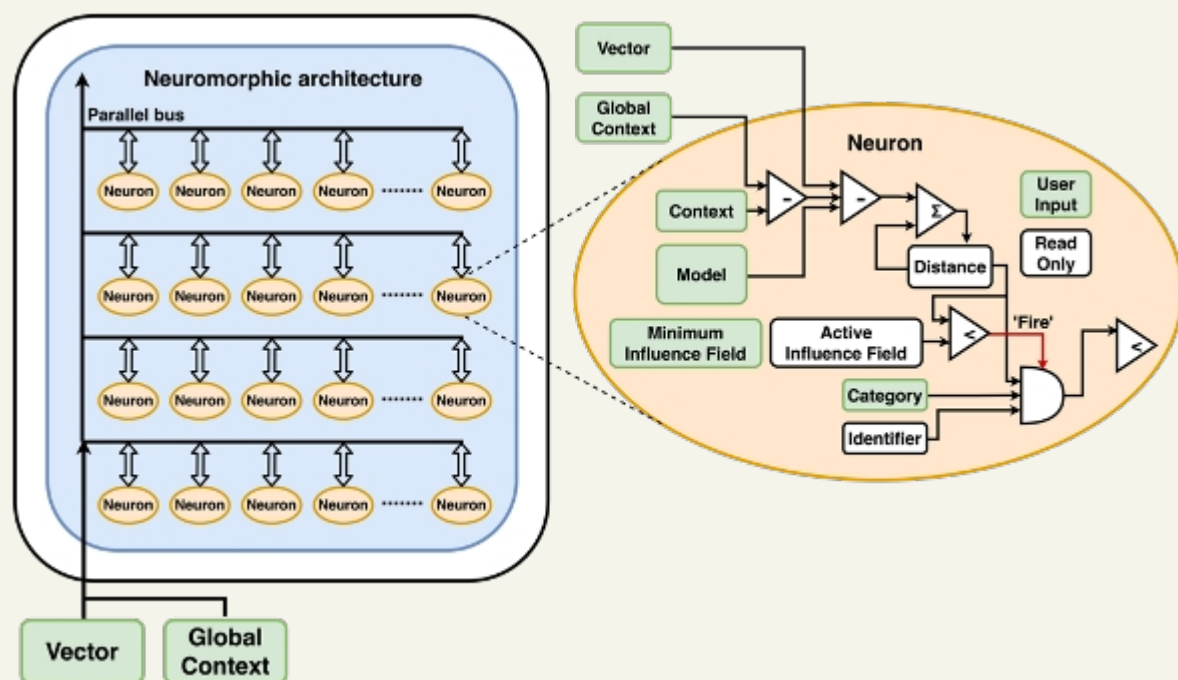
Tech ID: 32781 / UC Case 2020-294-0

BACKGROUND

Real-time radiation monitoring is critical for public health and emergency response. High-frequency monitoring can generate large amounts of data for dozens of radioactive isotopes though. There is a growing demand for compact radiation detection devices that are also able to quickly and autonomously process these large datasets for anomalies. A UC Santa Cruz researcher has developed machine learning software that synthesizes real-time radiation monitoring data in situ to detect radioactive anomalies.

TECHNOLOGY DESCRIPTION

A UC Santa Cruz researcher has designed software that is used in line with a radiation detector to identify radioactive isotope anomalies. The software uses a field-programmable gate array-based neuromorphic architecture and a spiking neural network to synthesize and display real-time anomalies in radioactive isotope spectra data. This technology is compact, portable, and low-power, and can be used for unmanned and unmanned aerial monitoring.



APPLICATIONS

Environmental monitoring

Public health emergencies

Radiation Monitoring and detection

CONTACT

University of California, Santa Cruz
Industry Alliances & Technology
Commercialization
innovation@ucsc.edu
tel: 831.459.5415.

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INVENTORS

► Abbaszadeh, Shiva

OTHER INFORMATION

KEYWORDS

Radiation Detection, Machine Learning, Ambient Monitoring, Nuclear contamination, UAV, Drone

CATEGORIZED AS

► [Sensors & Instrumentation](#)
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RELATED CASES

2020-294-0

ADVANTAGES

Compact, portable, low power
Autonomous processing
Fast processing times
Low detection thresholds and data storage needs

INTELLECTUAL PROPERTY INFORMATION

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Published Application	WO 2022/094625	05/05/2022	2020-294

RELATED MATERIALS

University of California, Santa Cruz

Industry Alliances & Technology Commercialization

Kerr 413 / IATC,

Santa Cruz, CA 95064

Tel: 831.459.5415

innovation@ucsc.edu

officeofresearch.ucsc.edu/

Fax: 831.459.1658

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