

Smart Edge Computing Using SC Adapters



Article Overview

Stochastic Computing (SC) adapters enable highly efficient, low-power edge computing by combining approximate computing with in-memory processing for real-time AI and IoT applications.

Overview of SC Adapters in Edge Computing

Stochastic Computing (SC) is an approximate computing method that represents data as probabilistic bit streams, allowing simple bit-serial logic gates to perform complex operations with massive parallelism and minimal hardware overhead. When integrated into edge computing, SC adapters can accelerate AI workloads such as image classification, object tracking, and sensor data processing directly at the edge, reducing latency and bandwidth requirements.

Compute-in-Memory (CIM) Integration

SC adapters are often combined with Compute-in-Memory (CIM) architectures, which embed computation directly within memory arrays. This approach eliminates the need for frequent data transfers between memory and processors, overcoming the Von Neumann bottleneck and significantly improving energy efficiency. SC-CIM accelerators can store stochastic bit streams in memory and perform in-memory multiply-accumulate (MAC) operations, achieving high throughput density suitable for edge devices with limited power and space....

Article Content

Hardware Solutions for Low-Power Smart Edge Computing

We reviewed current design approaches and devices targeted at implementing IoT and smart edge computing with

Intel® Smart Edge : Edge Node Software

The Intel® Smart Edge solution is comprised of several software components in a given deployment. These include Edge Node

Edge computing architecture and use cases

With the emergence of 5G as a technology transformation catalyst, companies are considering edge computing as part of their

Smart grid encounters edge computing: opportunities and applications

A comprehensive review of interdisciplinary works related to the integration of the edge computing and the smart grid

What is edge computing?

Edge computing is a distributed computing framework that brings enterprise applications

The Complete Guide to Intelligent Edge Technology

The rise of edge technology is transforming how data is processed and decisions are made, right where data is

SC//Reliant™ Edge Computing as a Service

In this short explainer, learn how the SC//Reliant™ Platform edge computing as a service helps organizations deploy and manage

SC-MII: Infrastructure LiDAR-based 3D Object Detection on Edge

This paper proposes SC-MII, multiple infrastructure LiDAR-based 3D object detection on edge devices for Split Computing with

Gain Turnkey Edge Computing with Intel® Smart Edge

It delivers multi-access edge computing (MEC) capabilities and a network-optimized, software-defined edge experience. In a world

Edge Computing – A Building Block for Smart ...

On the whole, Edge Computing has begun to transform data processing and transmitting methods by pulling the

Soft Computing for Intelligent Edge Computing

Many of the technologies that can enable the transformation towards intelligent edge system fall within the domain of

Scale Computing Unveils Scale Computing Platform (SC//Platform) as

Scale Computing is a leader in edge computing, virtualization, and hyperconverged solutions. Using patented

Edge Devices Explained (Definition, Types, Use Cases)

From intelligent traffic lights to smart factory machinery, edge computing devices are a testament to the possibilities of

Edge Computing, IoT and Social Computing in Smart Energy Scenarios

In this scenario sensors, actuators and smart devices interact to generate a large volume of data associated with

Hardware Solutions for Low-Power Smart Edge Computing

CYSmart is a flexible and low-power smart edge computing system that we present as an example. A few working

ScalEdge: A framework for scalable edge computing in Internet of

Edge computing is an emerging computing paradigm, which has completely reshaped the technological landscape of

Cloud and Edge Computing for Smart Management of Power

In this article, we discuss how cloud-based platforms and edge devices can allow for interfacing PECs and advanced

SC-TOF: A Secure and Reliable Task Offloading Framework for IoT

To address these challenges, we propose SC-TOF—a secure task offloading solution based on smart contracts. SC-TOF employs a

Hardware Solutions for Low-Power Smart Edge Computing

The edge computing paradigm for Internet-of-Things brings computing closer to data sources, such as environmental

Edge Computing – A Building Block for Smart ...

AI Integration Artificial Intelligence (AI) is becoming a key component of Edge Computing, enabling devices to make

A Review on Edge Computing in Smart Energy by

However, many of the challenges encountered under this paradigm are yet to be overcome,

Edge Computing: Use Cases and Benefits for Electrical Grids

The webinar will present the concept of edge computing, its applications for smart grids,

AR-Edge: Autonomous and Resilient Edge Computing

This chapter introduces a novel Autonomous and Resilient Edge (AR-Edge) computing Edge Computing Architecture

The transformative power of edge computing comes from the experts who are making it happen. This book summarizes the state-of

SC-MII: Infrastructure LiDAR-based 3D Object Detection on Edge

In SC-MII, edge devices process local point clouds through the initial DNN layers and send intermediate outputs to an

Analog Microcontrollers Perform Edge Processing | DigiKey

In addition, high-accuracy ADCs can require self-calibration to be performed in the firmware of the IoT endpoint's host

SmartEdge: A Smart Contract for Edge Computing

SmartEdge: A Smart Contract for Edge Computing Abstract: Edge computing has emerged as an effective offloading strategy for

Intelligent Management of Resources for Smart Edge Computing in

Although access is constantly changing and network devices have heterogeneous resources, it is not easy to create

Computers, Monitors & Technology Solutions | Dell USA

Dell provides technology solutions, services & support. Buy Laptops, Touch Screen PCs, Desktops, Servers, Storage, Monitors,

Intelligent Edge Computing for Smart Cities

It becomes obvious that EC can provide significant advantages to Smart Cities (SCs), assisting them in supporting

Edge Computing in Manufacturing: 2026 Smart Factory Guide

Learn how industrial edge computing powers smart factories with real-world use cases, key technologies, and deployment strategies.

Edge computing is driving smart grid responsiveness

Discover how edge computing improves smart grid resilience by enabling the quick

Edge intelligence through in-sensor and near-sensor computing for the ...

Edge processing at the sensor level can be broadly categorized into in-sensor computing and near-sensor computing

ESSENTIALS OF EDGE COMPUTING

FOREWORD We anticipate a huge leap in the smart things that make up the edge of everything in our homes, offices, factories, and

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.thebucketlistbook.co.za>

Email: sales@thebucketlistbook.co.za

Phone: +33 1 42 78 39 16

Address: 10 Rue de la Paix, 75002 Paris, France

This document is for informational purposes only. Specifications subject to change without notice.

