WizChip

A compact neuromorphic chip for edge computing

APPLICATION AREA

Sector: Cyber Security, AI & Advanced Computing

Area: Surveillance

Industry: Neuromorphic computing

Market: Neuromorphic chips

PARTNERSHIP OPPORTUNITIES

We are seeking partners in agriculture, environmental monitoring, and manufacturing interested testing applications as well as Integrated Circuit manufacturers to collaboratively develop miniaturized prototypes. This capability and application area is available for a:

☒ Cooperative Agreement
☐ Open Source
☒ Technical Assistance

CONTACT

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OVERVIEW

The WizChip is a new means of deploying neuromorphic computing with compact, tailored, and cost-effective solutions. WizChip combines the ability of neuromorphic computing to perform brain-like tasks, such as image recognition or obstacle avoidance with a more user-friendly framework for customization and implementation of a computation. This is accomplished by using an analog physical reservoir computing architecture, which can solve simple classification problems with hundreds less transistors than other neuromorphic chips, significantly reducing cost, size, and energy consumption. This optimization allows WizChip to fill the gap between powerful general purpose neuromorphic chips and simple but limited sensors, making it ideal for edge computing applications and the growing world of tinyML.

SPECIALIZATION / APPLICATION AREAS

- Offers smaller size, weight, and power requirements than its competitors
- Can be trained in-field for on-the-fly adjustments without needing complex training for agile applications
- Operates independent of cloud resources, bringing optimized neuromorphic capabilities to edge computing.
- Naturally encrypts the performed task
- Functional proof-of-concept implementation successfully simulated image distinguishing capabilities

TECHNOLOGY STATUS

- Physical prototype is collaboratively being built with Texas A&M University