

EdgeCortex Develops AI Technology That Runs On-Device

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EdgeCortex (Chuo, Tokyo), a startup specializing in semiconductor design and development, unveiled new technology on the 15th designed for AI-powered robots and similar applications. Its key feature is that the AI runs directly on the device, which improves response accuracy and reduces power consumption.

At a demo held the same day at an AI technology exhibition in Tokyo, the on-device AI answered user questions via chat and described the clothing and actions of visitors captured by a camera—all without connecting to the internet. The system is equipped with "TinySwallow," a (Japanese) small language model (SLM) developed by Sakana AI, a Tokyo-based startup founded by former Google researchers. Power consumption is kept under 7 watts, which is said to be less than one-fifth that of [NVIDIA](#)'s graphics processing units (GPUs).

Sakyasingha Dasgupta CEO explained that the technology is not intended for general-purpose use, but is better suited for practical implementation in specific settings such as factories. Moving forward, the company aims to improve the AI's accuracy and user experience.

EdgeCortex was founded in 2019 and specializes in the design technology of software for semiconductor chips. It has received investment from companies such as Renesas Electronics. Mr Dasgupta has experience in research and development at IBM and RIKEN. The company is also progressing with plans to develop more advanced AI semiconductors with a circuit width of 6 nanometers (one nanometer is one-billionth of a meter) by 2026, with plans to sell them for next-generation infrastructure.

Translation prepared by EdgeCortex

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