Concurrent Programmable Data Co-processor

A novel hardware and software system enables low-power mobile devices to execute complex, high-performance vision tasks with complete programmability and efficient scaling for new vision models.

Tagging images and videos on mobile devices is an open market. Many software companies recently began to work on deep learning techniques; however, such techniques are limited by the low-performance hardware of mobile phones. In addition, some of the existing products are task-specific and cannot be reprogramed to perform new tasks.

Researchers at Purdue University have developed a new system of hardware and software that can solve state-of-the-art, complex, vision tasks. This system includes a novel hardware architecture that provides low-power operation and simultaneously a high number of operations for a whole class of vision algorithms while maintaining complete programmability. This system adapts new tasks with minor reprogramming and scale more efficiently to new vision models.

Advantages:

-Can solve state-of-the-art, complex, vision tasks

-Provides low-power operation and simultaneously a high number of operations

-Adapt new tasks with minor reprogramming

-Scale more efficiently to new vision models

TRL: 6

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Artificial Intelligence & Machine Learning/AI Model Optimization & Acceleration Tools
Semiconductors/Devices & Components

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