AI Optimized Hardware in Intelligent Hardware | PISIQ

What is AI Optimized Hardware?

What is actually AI hardware and how it differs from the general hardware we are used to. Essentially, when we talk about AI hardware, we refer to some type of **AI (Artificial Intelligence) accelerators** — a class of microprocessors, or microchips (which may come under **Robotics**) designed to enable faster processing of AI applications, especially in **machine learning**, **biometrics**, **Internet of Things (IoT)** devices, **neural networks** **and computer vision**. They are usually designed as core and focus on low-precision arithmetic, novel dataflow architectures or in-memory computing capability.

The idea behind AI accelerators (which comes under Intelligent Hardware) is that a large part of AI tasks can be massively parallel. With a general purpose GPU (GPGPU), for example, a graphics card can be used in massively parallel computing implementations in Robotics and Biometrics and Internet of Things (IoT) connected devices and systems, as well as various other

computer based industries, where they deliver up to 10 times the performance of CPUs.

The second pillar of AI (Artificial Intelligence) accelerators design is focused on multicore implementation. Think of a GPU that can accelerate such tasks using many simple cores that are normally used to deliver pixels to a screen. These cores are designed for simpler arithmetic functions common to AI, where the number of simple functions grows so high that traditional computing approaches fail. With purpose-designed application-specific integrated circuits (ASICs), efficiency can be even greater than that achieved with GPGPU, which can benefit edge AI (Artificial Intelligence) and Robotics tasks in Internet of Things (IoT) related operations.

A purpose-made accelerator by PISIQ delivers greater performance, more features and greater power efficiency to facilitate a given task.