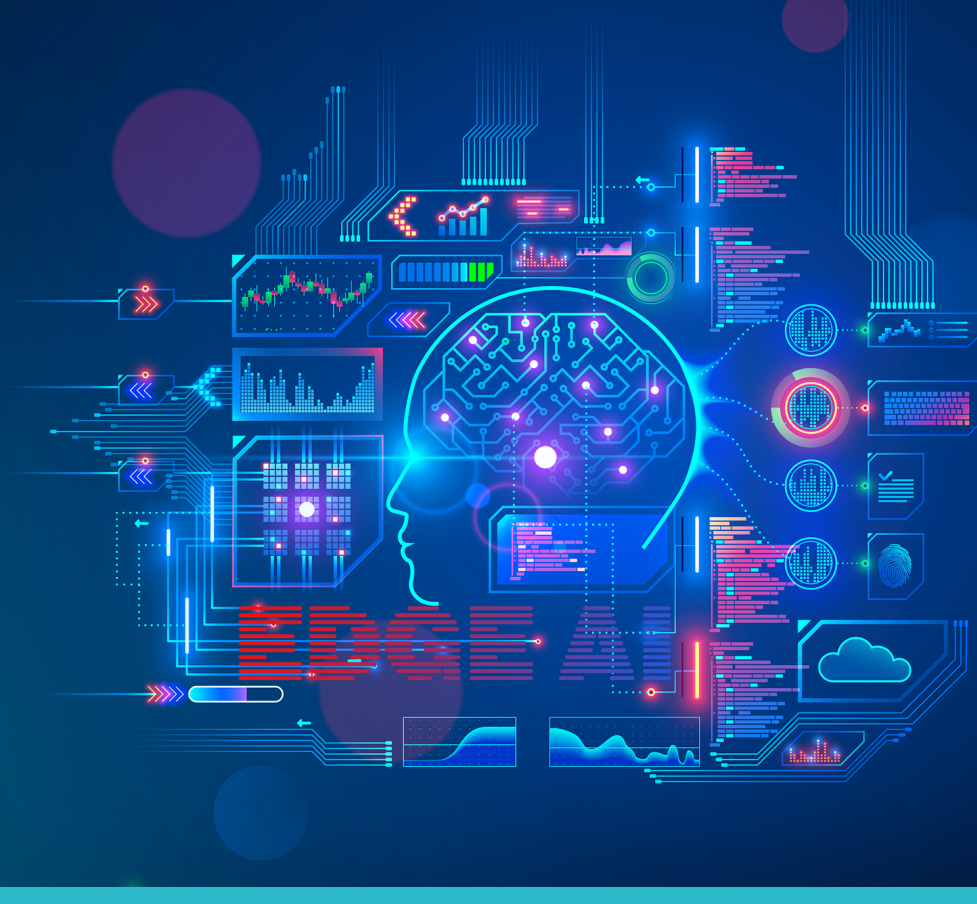
ADLINK
Leading EDGE COMPUTING

Why Employ Edge AI?

Edge artificial intelligence (AI) is a system that runs AI algorithms locally, close to where data is produced and major actions are taken. The main objective of edge AI is to deliver results faster than running AI in the cloud, which is especially important for mission- and business-critical operations.



What Does Edge AI Enable?

Quicker Response

Process AI workloads locally, thus eliminating the delay associated with sending vast amounts of data to the cloud for processing.

Better Mobility

Perform AI functions locally on the mobile systems (e.g., autonomous mobile robots) to reduce the dependency on wireless networks with inconsistent coverage (i.e., dead zones, service outages).

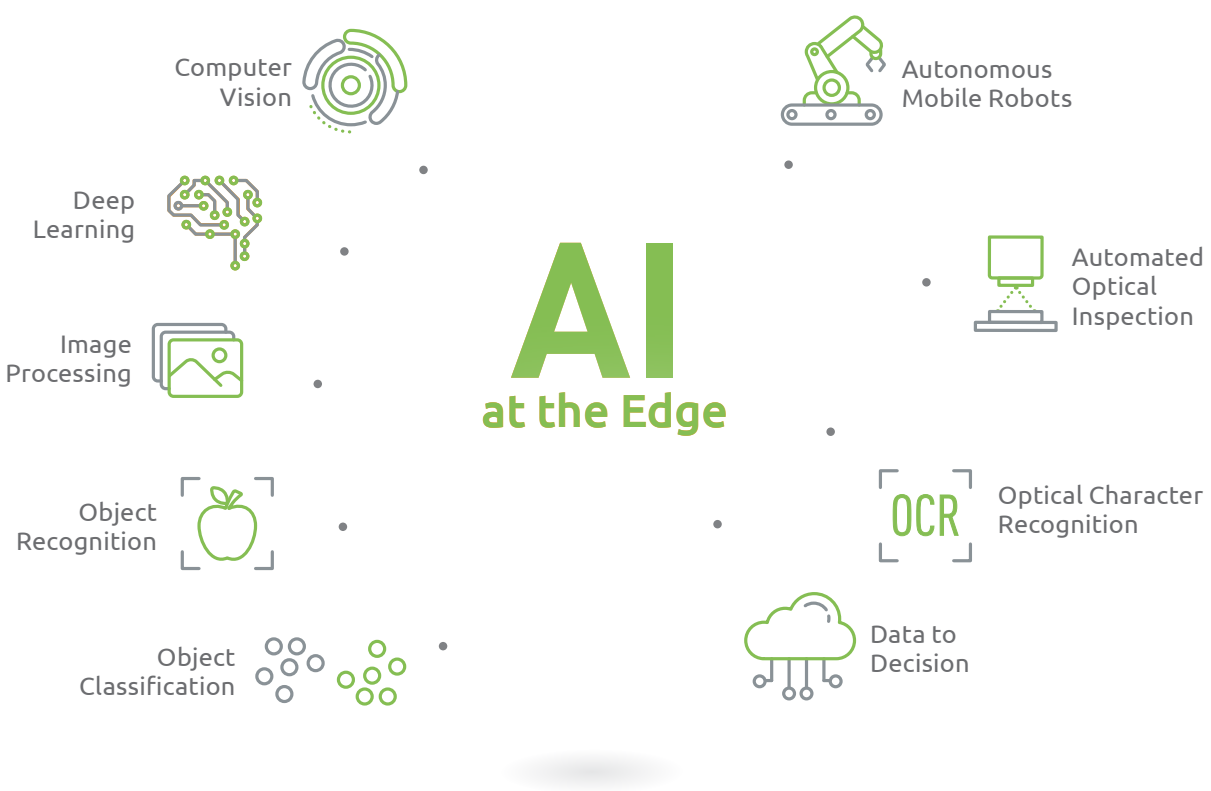
Lower Data Risk

Decrease the risk of data tampering by sending less data across networks, which enhances data security.

Lower Network Cost

Send less data to the cloud, thereby spending less on network services.

How Is Edge AI Used?



How Does Edge AI Work?

The edge AI system establishes a continuous feedback loop to help increase the performance of a nearby industrial process.

Step 1

The edge AI system collects data generated by an industrial process.

Step 2

The system's inference engine analyzes the data and makes deductions.

Step 3

The system sends control commands, based on its deductions, to the industrial process.

Step 4

The edge AI system evaluates the resulting industrial process performance and adjusts the control commands, as needed.

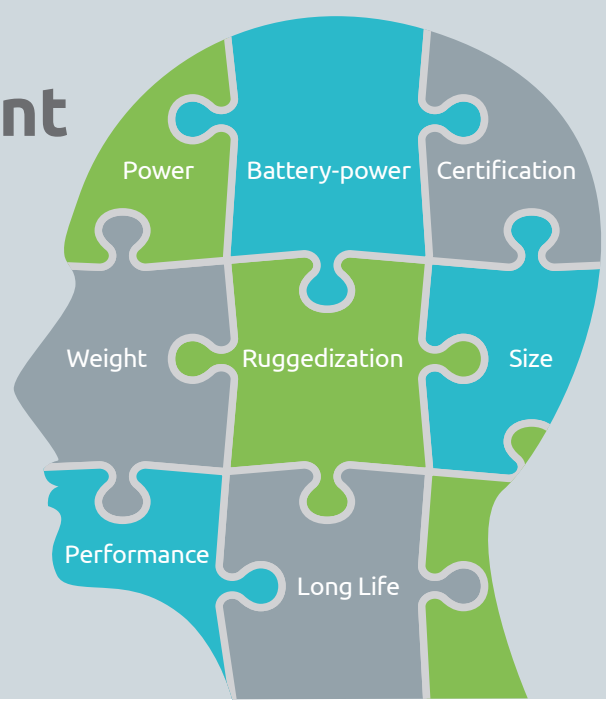
What Benefits Does Edge AI Offer?



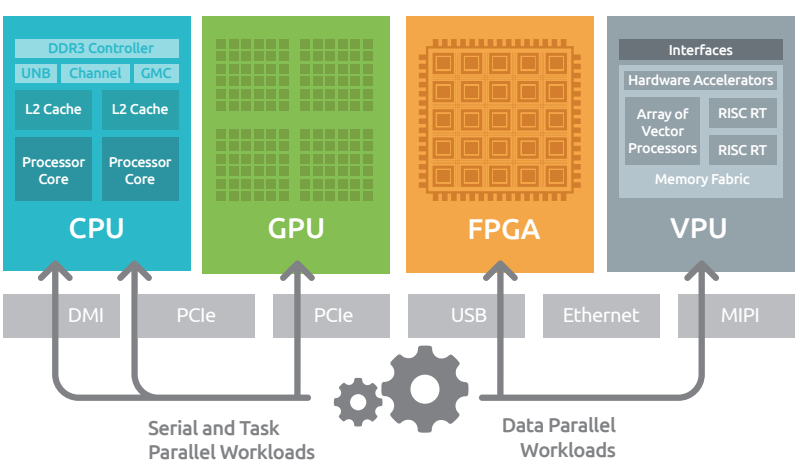
What Are the Development Challenges?

Solution developers can develop excellent AI models, but it is still necessary to determine which mix of hardware components will optimize a particular application's **performance requirements** in terms of the type and amount of data, latency, and accuracy.

There are also **environmental design challenges**, such as satisfying size, weight, power (SWaP), ruggedization, battery-power, long life, and certification requirements.



How to Overcome Edge AI Challenges



Heterogeneous Platforms

When optimizing the performance-per-watt and performance-per-dollar of edge AI applications, it is important to identify which computational cores best fit the AI workloads. This approach is called heterogeneous computing because a mix of computing cores, such as CPUs, graphics processing units (GPUs), vision processing units (VPUs), and FPGAs, are used.

Platform Optimization

OEMs, ODMs, and systems integrators can choose the right hardware platform by taking advantage of the ADLINK benchmark database to profile their AI workloads. It is possible to benchmark more than 50 popular AI networks for different inferencing engines.





Full Spectrum of Solutions

ADLINK addresses a wide range of performance and SWaP requirements with a comprehensive portfolio of highly reliable, heterogeneous computing solutions, including embedded MXM GPU modules and PCI Express graphics cards, and Edge-AI and GPU-computing platforms.

Take advantage of ADLINK products and support to optimize your edge AI solution by asking an ADLINK Expert today.

Ask An Expert

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