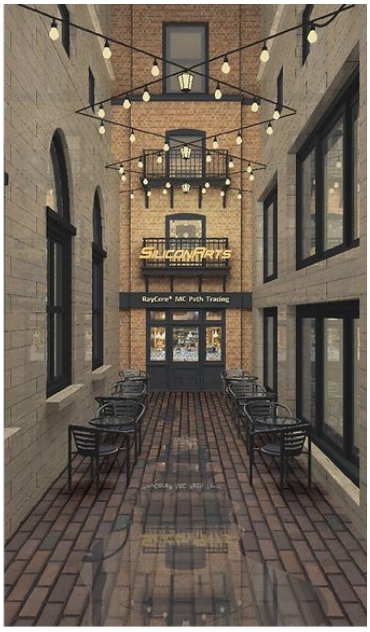
Ray Tracing GPU & AI Processor

Siliconarts is a leading company in real-time ray tracing GPU technology. Based on the original patent real-time ray tracing technology, Siliconarts developed the world's first Ray / Path Tracing GPU IP & RayChip.

Path & Ray Tracing GPU IP - RayCore® MC

RayCore MC is a world-class real-time path & ray tracing GPU IP that enables fast rendering processes with low power consumption. Global illumination and soft shadows are applied to provide photo-realistic high-quality graphics, and at the same time provide differentiated graphic effects such as depth of field, glossy reflection, and motion blur.

Real Photo
(Hero Coffee Bar, 22 E Jackson Blvd, Chicago, IL 60640-2202

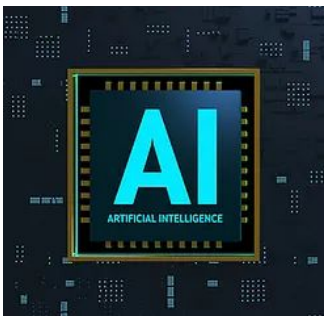


RayCore MC Rendered Image

FEATURES

- Real-time path tracing GPU IP optimized for mobile and embedded applications
- Unprecedented 3D graphics experience in gaming, virtual reality and augmented reality
- Provides photo-realistic graphic effects
- Provides realistic graphic effects applicable to high-end games, movies, advertisements, education, and simulators
- Fully Hardwired Path Tracing logic
- Optimized for application processors with small form factor and low power architecture
- Implementation of path tracing based on MIMD architecture
- Maximize efficient rendering with independent parallel computation
- Real-time pass & ray tracing support by maintaining ray tracing performance regardless of image characteristics
- High scalability
- Linearly improve graphics performance by increasing the number of Raycores due to parallel design
- Ensures excellent graphics processing performance and low power consumption for the cost

GPGPU IP - RAIV®



RAIV is a GPGPU (General Purpose-GPU) that quickly calculates and processes data used in deep learning or machine learning, scientific calculations and a wide range of computational problems. Designed based on multi-threaded extensions of the open sourced RISC-V instruction set, it supports innovative product development through strategic collaboration with customers with an efficient architecture that is low cost to implement. It was developed with a SIMT (Single Instruction Multiple Thread) architecture that is optimized for artificial intelligence acceleration, supporting OpenCL compilation to easily configure various types of systems between heterogeneous platforms.

FEATURES

- Low-power, high-performance acceleration solution
- Supports machine learning and inference of various neural networks
- A total solution that accelerates multiple applications simultaneously through multithreading
- Provides fast arithmetic processing of AI data and an optimized structure for applications using it
- Provides high scalability
- Through scalable reconfiguration in units of cores, it is possible to properly configure according to the application Supports various applications that process images such as 3D graphics and AI in the field of edge computing
- High quality 3D graphics support
- In conjunction with graphics acceleration function and AI function, 3D visualization function of artificial intelligence application is provided and applied to the metaverse, etc.

APPLICATIONS

From training to inference, we provide a low-power, high-performance acceleration solution that suits our customers.

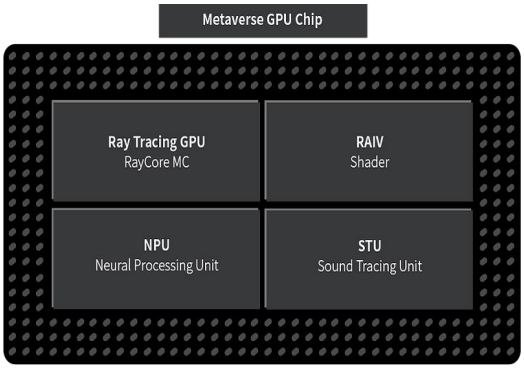
[Edge Devices]

Smartphones, IoT, Autonomous driving, etc.

METAVERSE GPU

Metaverse Dedicated Ray Tracing GPU

The reality-like graphics effect of ‘Ray-Tracing’ is a key rendering technology that provides an ‘Immersive Environment’ by reducing the gap between virtual and reality to increase immersion in the virtual world. Siliconarts' dedicated ray tracing GPU chip provides you with a seamless real-time streaming service of high-quality graphics.

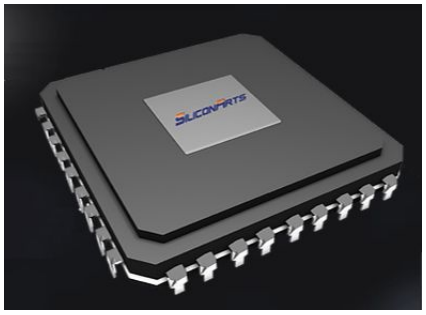


- **Ray tracing GPU (RayCore MC)**
  Immersive (Natural & Realistic) light expression (Reflection, Refraction, Transmission, Soft Shadow), Indirect Illumination
- **GPGPU (Shader)**
  Denoising, Upscaling to enhance graphics quality
- **NPU (Neural Processing Unit)**
  AI Acceleration of data and image processing – NPC’s (Non Play Character) reaction change to player’s actions thro AI training
- **STU (Sound Tracing Unit)**
  Real-time sound-tracing for life-like three dimensional sound

FEATURES

- Ray tracing GPU chip for servers optimized for metaverse platforms
- Designed with world-class low-power structure
- Low Latency for Real-Time Streaming Services
- Eliminate Graphics Performance Degradation
- Improved realism of metaverse visual environment
- Improvement of user experience for metaverse users

RayChip® Renaissance LP GPU



Ray Tracing GPU for Desktop & Laptop PC

- The world's first high-end gaming dedicated ray-traced graphics chip
- Ray-tracing - A core rendering technology that provides an 'Immersive Environment' by increasing immersion in the virtual world by reducing the gap between virtual and reality with realistic graphics effects
- AI processor supports denoising and upscaling to achieve high-quality graphics rendering

FEATURES

- Real-time support for immersive play of high-end games with GPU chip optimized for gaming laptops
- Real-time ray tracing support
- Designed with world-class low-power structure
- Low-latency structure for real-time play of high-end games
- High-performance graphic processing for light phenomena such as shadows and reflections
- DXR 12, Vulkan RT 1.2 support

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