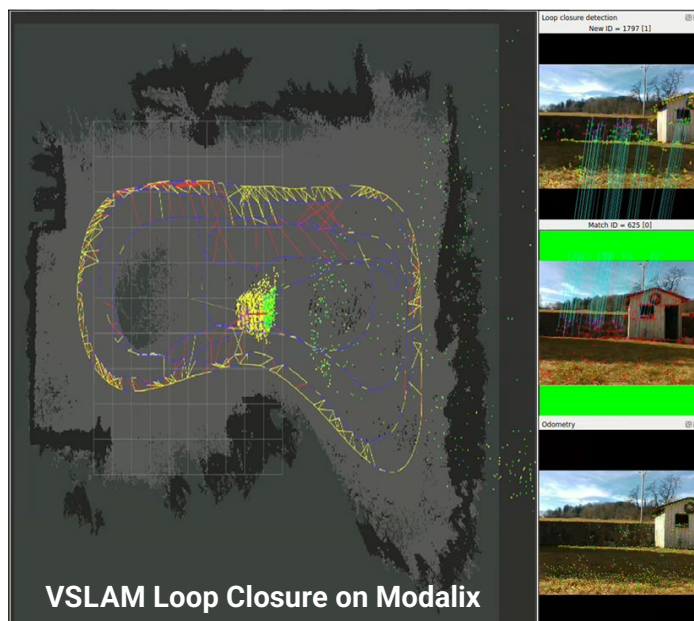




Autonomous Mobile Robots – (AMR) Running on SiMa Modalix

SiMa.ai Value Proposition

- Build fully autonomous robots on a single device with no cloud reliance or bolt-on accelerators.
- Simplify robot design by unifying ROS orchestration and AI inference on one physical AI platform.
- Integrate real-time Lidar or video SLAM, navigation, and semantic scene understanding locally for lower latency, higher reliability, and built-in data privacy.
- Enable scalable autonomy from AMRs to humanoid robots.
- Maintain design momentum and enjoy lower power by swapping out leading GPU provider's SoM with SiMa's pin and form factor compatible SoM.



Simultaneous Localization and Mapping (SLAM)

Enables robots to map indoor or outdoor environments and determine their location within them when revisiting.



Mobile "ROSBot"

Deterministic Autonomy for Physical AI Robotics

Autonomous robots must simultaneously perceive their environment, localize within it, and execute motion decisions in real time. Traditional compute platforms designed for peak throughput often struggle to meet the deterministic, low-latency requirements of robotics systems. SiMa.ai's Modalix platform delivers an integrated edge-native architecture optimized for robotics workloads, enabling reliable autonomy while simplifying system design and reducing power consumption.

- Real-time perception, localization, and control running concurrently on-device.
- Deterministic performance for reliable autonomous operation.
- Lower system complexity by consolidating robotics workloads onto one platform.
- Scalable compute foundation for next-generation intelligent robotic systems.

SiMa.ai Modalix MLSoC - Physical AI for Intelligent Robotics Systems

Integrated sensor ingestion, ROS orchestration, SLAM, navigation, and AI perception

Technical Details

Optimized ROS 2 stack supporting Visual SLAM, LiDAR SLAM, navigation, and perception.

Broad sensor support including cameras, LiDAR, ToF sensors, IMUs, and wheel encoders.

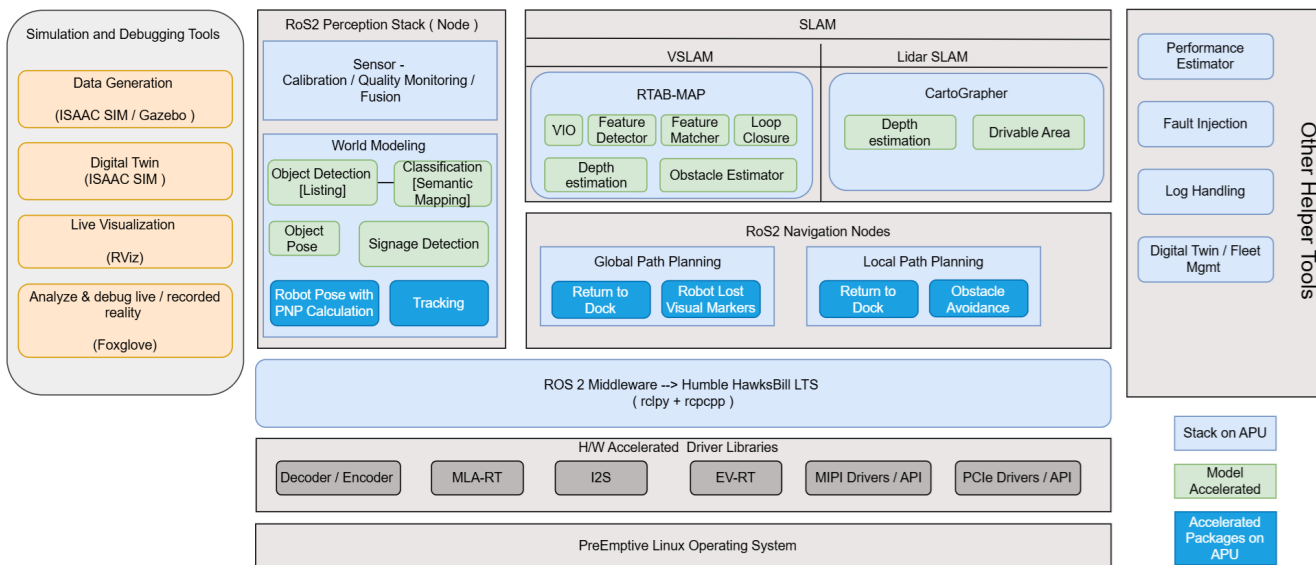
Direct raw sensor ingestion with on-chip depth and disparity generation.

Heterogeneous compute architecture combining Arm orchestration with ML acceleration.

Real-time robotics pipelines with significant compute headroom for additional AI workloads.

Compatible with leading robotics tools including Isaac Sim, Gazebo, RViz, and Foxglove.

Robotics Stack



Hardware

Our Silicon



Modalix

Our Boards



SoM



SoM Dev



PCIe HHHL

Software



Hugging Face huggingface.co/simaaai

Model Zoo simaaai.com/model-browser/



About SiMa.ai

SiMa.ai is a leader in Physical AI, delivering a purpose-built, software-centric platform that brings best-in-class performance, power efficiency, and ease of use to Physical AI applications. Focused on scaling Physical AI across robotics, automotive, industrial automation, aerospace & defense, smart vision, and healthcare, SiMa.ai is led by seasoned technologists and backed by top-tier investors. Headquartered in San Jose, California. Learn more at www.simaaai.com.

