Palette™ Software Platform

Palette™
ML SOFTWARE DONE RIGHT

Highlights

SiMa.ai's Palette™ software platform is designed for complete ML stack application development. The platform supports any ML workflow customers plan to deploy on the edge, without compromising performance and ease of use. Palette's integrated ML compiler accepts any model from any neural network framework. These models, together with optimized pre and post processing libraries, are integrated into the computer vision pipeline using GStreamer. The ML application stack utilizes a full featured embedded Linux (Yocto) run-time that manages and deploys ML use cases. The all-in-one developer platform includes model, application, debug and execution tools which targets SiMa.ai's MLSoC heterogeneous platform.

Palette Development Flow

Create a complete ML workflow involving optimized DNN models, pre & post processing libraries and application logic. Develop applications using GStreamer workflows with advanced scripting and automation tools.

Build integrated applications that are seamlessly compiled and mapped to the MLSoC's heterogeneous compute engines. Patented SiMa.ai ML compiler along with highly optimized kernels extract optimal performance automatically. The automation of the build process takes the housekeeping away from the developer so they can focus on the ML application logic.

Deploy and easily manage application packages on the SiMa.ai MLSoC using the Palette's Device Manager. Packages enable a highly scalable workflow for both testing and operational deployment. Security options provide protection of the deployed application packages on the SiMa.ai MLSoC target hardware.

Debug sessions, generate logs and profile applications in real-time. The software platform allows evaluation of multiple applications deployed across numerous MLSoC devices.

Model Compiler

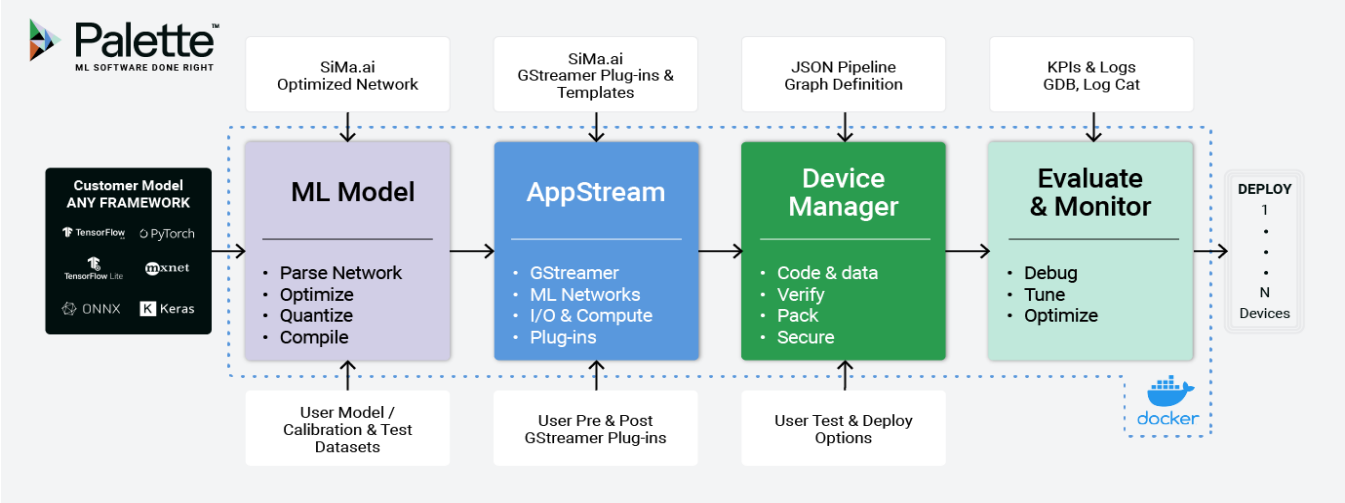
- Supports and optimizes DNN models from a wide range of frameworks.
- Pushbutton compilation.
- Partition model across heterogeneous compute resources in the MLSoC.
- Python API.
- Manual mixed-precision support

Model Library

Palette provides a reference library of models covering common DNN topologies. Each DNN model comes with detailed information about the reference, test, and calibration data used, model accuracy metrics, and key performance indicators.

Application Development

- Library of application examples.
- Library of plugins for pre and post processing for most common use cases.
- Data ingestion.
- Multiple camera streams.
- Build complete workflow/application and validate on the SiMa.ai MLSoC board.
- Collect application statistics and logs.



Application Libraries

Palette features a reference library of ML applications targeting various use cases in different targeted markets. Using Palette, the user can replicate functionality and modify the workflow to quickly iterate on new ML applications.

Device Manager

- Secure communication to MLSoC boards.
- Verify and package applications and all required resources.
- Execute and analyze applications on silicon.
- Deployment and maintenance.

Debug & Profiler

- Dynamic Profiler and Visualizer
- Multi-core MLSoC GDB debug.
- LogCat and PerfCat options.
- Visualize application pipeline execution flow.

Palette runs on Linux, Windows & Mac.
Contact info@sima.ai for cloud deployment options

About SiMa.ai

SiMa.ai is the software-centric, embedded edge machine learning system-on-chip (MLSoC) company. SiMa.ai's hardware to software stack flexibly adjusts to any framework, network, model, sensor, or modality all in ONE Platform. Edge ML applications that run completely on the SiMa.ai MLSoC see a tenfold increase in performance and energy efficiency, bringing higher fidelity intelligence to ML use cases spanning computer vision to generative AI, in minutes. With SiMa.ai, customers unlock new paths to revenue and significant cost savings to innovate at the edge across industrial manufacturing, retail, aerospace, defense, agriculture, and healthcare. SiMa.ai was founded in 2018, has raised $270M and is backed by Fidelity Management & Research Company, Maverick Capital, Point72, MSD Partners, VentureTech Alliance and more. For more information, visit www.SiMa.ai

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