

# RA Ecosystem Partner Solution

## RT-Thread RA8 OpenMV solution



### Solution Summary

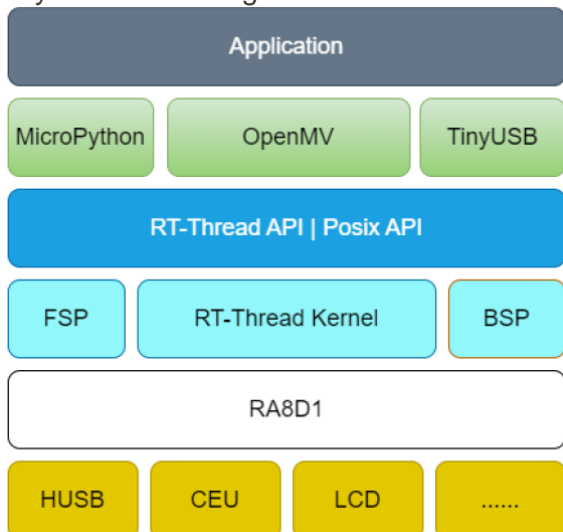
This solution is based on the [Renesas RA series MCUs](#), which realizes the operation of RT-Thread and Arduino of Machine Vision (OpenMV) embedded computer vision library for Vision Board on RA8D1 with 2M flash. The solution makes full use of the RA8 hardware resources to process the camera image captured by the CEU (capture engine unit) video and transmit the image to the host computer through HUSB for display. With the excellent CPU computing power of RA8 and the rich software package ecosystem of RT-Thread, it is convenient for machine learning to be quickly implemented in embedded devices. Download sample software [here](#).

### Features/Benefits

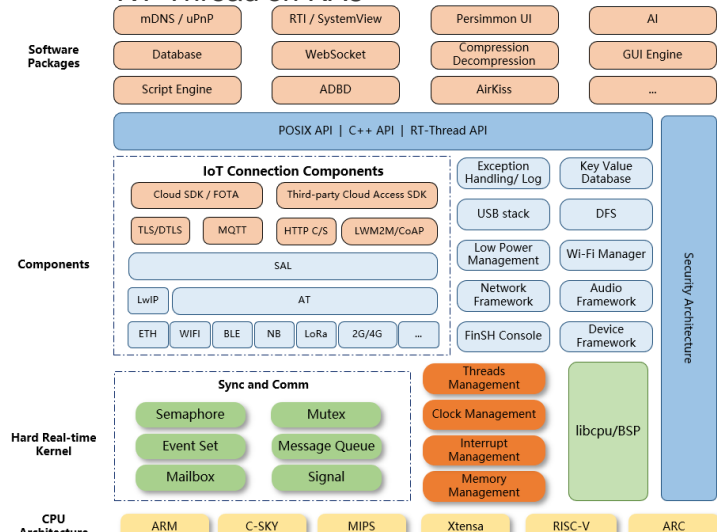
- Over 600 up-for-grabs software packages covering IoT, security, AI, peripherals, systems, multimedia, languages
- MicroPython programming accelerates algorithm validation
- Quick implementation of machine learning to embedded devices
- High-speed USB boosts image transfer speed

### Diagrams/Graphics

System block Diagram



RT-Thread on RA8



### Target Markets and Applications

- Visual Identification & Classification
- Object detection and tracking
- Visual navigation and positioning

[RT-Thread Store: Renesas RA8 Vision board](#)

## Vision Board development board

The Vision Board development board is RT Thread's RA8D1 Renesas chip based on the Arm Cortex-M85 architecture, providing engineers with a flexible and comprehensive development platform to help developers gain a deeper experience in the field of machine vision. The Vision Board is equipped with the world's first 480 MHz Arm Cortex-M85 chip, supported by Helium and TrustZone technologies. The SDK package integrates OpenMV machine vision sample program, combined with the MicroPython interpreter, to enable smooth development of machine vision applications, and registered as [RT-Thread Resource-Supported Board](#)

