Plumerai

RA Ecosystem Partner Solution
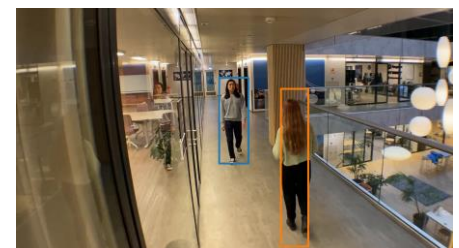
Plumerai People Detection

Solution Summary

Plumerai has developed a complete software solution for camera-based people detection. The people detection AI models are tiny, fast, and accurate. The Plumerai People Detection AI software is 1.2 MiB large and runs with 289 KiB of on-chip memory. The people detection software solution is readily available for the [RA Family of MCUs](#) and runs on Arm Cortex-M33, Cortex-M4 and Cortex-M85 microcontrollers.

Features/Benefits

- Detects each person in view, even if partially occluded
- Tracks people and assigns up to 20 unique IDs
- Supports indoor, outdoor, and IR LED lighting
- Detection distance of more than 20m / 65ft
- Trained with over 32 million labeled images
- Extensively validated on diverse people and scenarios
- Supports lenses up to 180 FOV

Diagrams/Graphics

Target Markets and Applications

- Intelligent people detection sensors
- Security cameras and video analytics
- Video conferencing and webcams
- Video doorbells and smart home cameras

- Smart home applications
- Smart office applications
- Smart retail applications
- Smart health applications

[Plumerai - People detection AI that fits on any device](#)

2024.09

Applications

Video doorbells & smart home cameras

- Receive notifications when people are on your property, not when a pedestrian simply passes by.

- Runs at the edge: no cloud compute cost, better for privacy, no bandwidth, no latency.

- Higher accuracy than simple motion detectors.

Video conferencing and webcams

- Keeps participant optimally in view, even when sitting right next to the camera or at the end of a long boardroom table.

- Reporting participant statistics and conference room occupancy.

- Since our AI is tiny, even consumer webcams can offer professional features.

Security cameras and video analytics

- People counting, loitering detection, or to steer pan-tilt-zoom cameras to auto-follow.

- Blur people for privacy and GDPR compliance.

- No need for a GPU or AI accelerator.

Intelligent people detection sensors

- Many devices simply work better when they know where the people are.

- Lights turn off when you leave the office and AC's steer the cold airflow toward you.

- Robots stop for you and traffic lights become more efficient.

- No video record or transmit: increases privacy, lowers power and cost.
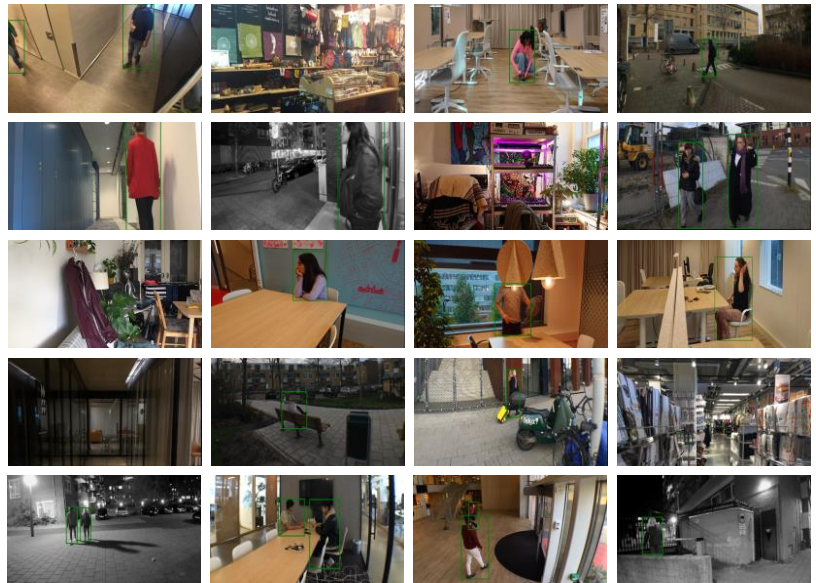
TRAINING DATASET
30M images

ARM CORTEX-M7
3 frames/s

ARM CORTEX-M85
13 frames/s

WITH A TINY FOOTPRINT
1 MB

Accurate people detection under all circumstances

Website:
www.plumerai.com

People detection for Renesas RA MCUs:
plumerai.com/partners/peopledet-renesas

Our blog with lots of good articles:
blog.plumerai.com/

Talks on YouTube:
search for "Plumerai talks webinars"

Get the software:
hello@plumerai.com