

Accelerated AI Video Analysis Reference Design with tsunAI^{mi}® Accelerator Cards



tsunAI^{mi}® Outperforms GPUs for Video Analysis

Using legacy hardware is holding back your smart city video analytics. A single tsunAI^{mi} Accelerator Card can turn an existing server into an AI powerhouse and works out of the box with this complete smart city video analytics reference design.

48

Real-Time 30 FPS Streams

3.75X

Greater Efficiency vs GPU

2X

Greater Performance vs GPU

Reference Design Components

Hardware Configuration

- 1x tsunAI^{mi} tsn800 accelerator
- CPU as host

Software Configuration

Configurable number of streaming video feeds into models capable of:

- Image Segmentation
- Object Detection
- Classification

Analytics include:

- Person counting
- Car counting
- Danger Zone detection
- Walk/Stop detection

Included AI Models:

- YOLOX-L
- YOLACT
- runAI YOLO

Results

tsunAI^{mi} tsn800 delivers:

- 3.75X greater efficiency on object detection
- 2X greater performance on object detection

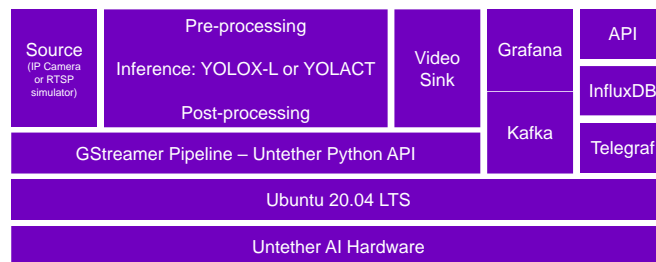
www.untether.ai
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A single tsunAI^{mi}® tsn800 can deliver high performance AI analytics

Use this reference design to start building a high-performance video analytics pipeline for smart city applications.



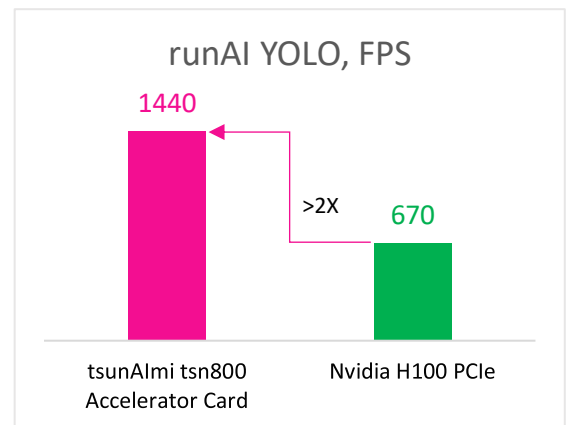
Smart City Solution Architecture



SOURCE-CODE The entire software infrastructure for this reference design is available as source code which can be used as is or modified to meet your requirements.

SEAMLESS INTEGRATION The reference design includes an RTSP simulator and integrations with Kafka, GStreamer, Telegraf, Grafana, and InfluxDB to create real-time analytics dashboards based on the video streams.

BETTER PERFORMANCE The tsunAI^{mi} tsn800 delivers twice the throughput for real-time inference compared to the leading GPU.



640 x 640 x 3 inputs. Batch = 1.

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