

RZ Ecosystem Partner Solution

MOSCHIP ADAS Brake Alert with Distance Monitoring



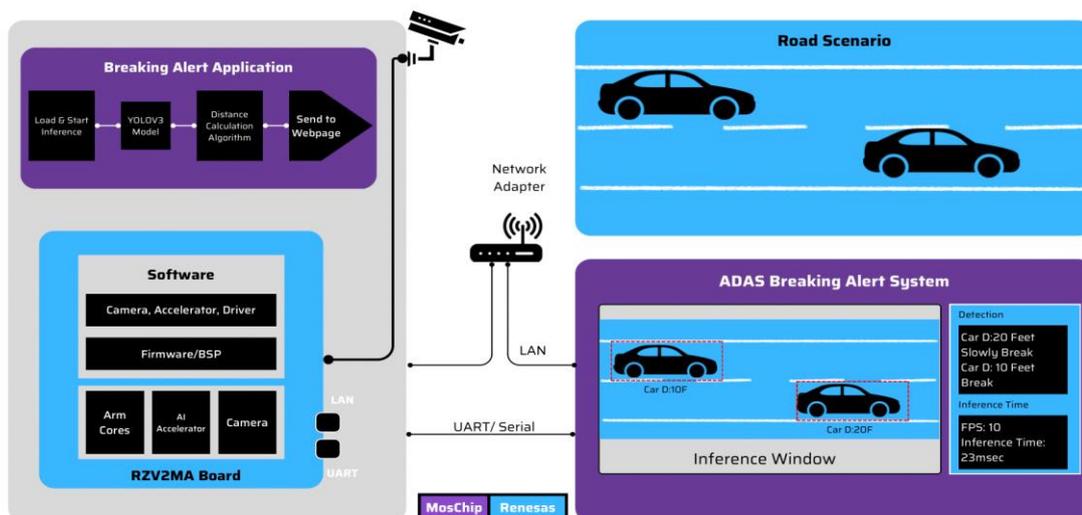
Solution Summary

MosChip® solution for ADAS brake alert features distance monitoring and is tailored for deployment on [RZ/V series](#) vision MPUs with DRP-AI accelerators. This application offers a comprehensive solution for ADAS collision alert systems, focusing on detecting objects in the front view of a vehicle and monitoring the distance between the vehicle and detected objects. Inferred YOLOv3 architecture + distance monitoring algorithm and is now deployed on the [RZ/V2MA](#) edge AI accelerator.

Features/Benefits

- Combination of pretrained YOLOv3 and TinyYolov3 and custom-trained algorithms for object detection
- Custom object detection models created using Pytorch framework, trained, validated and subsequently ported to ONNX format for compatibility and deployment purposes
- Pixel-based distance calculation algorithm developed and rigorously tested, demonstrating an accuracy rate of 60%
- For example, inference tasks on Edge AI accelerators achieve an impressive 23 ms inference time for TinyYolov3, delivering a corresponding speed of 10 frames per second (FPS) for detected classes

Diagrams/Graphics



Target Markets and Applications

- ADAS
- Distance measuring applications

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AI ENGINEERING SERVICES OFFERINGS

COMPUTER VISION

- Machine & Computer Vision Algorithms
- Object Detection, Identification & Visual Perception
- Image Capture & Optimization
- Vision Analytics & Processing
- Optical Character Recognition

ML LIFECYCLE MANAGEMENT

- MLOps - Automated ML Pipeline Deployment
- Model Designing, Optimization, Testing & Porting
- Inference Engines & Metrics
- ML Transfer Learning Framework
- Data Augmentation & Annotation

COGNITIVE COMPUTING

- Deep Learning & Neural Networks
- AI/ML on Edge & Cloud
- ML Application Acceleration
- Cross Platform Porting & Integration
- Natural Language Processing (NLP)

AI/FPGA ACCELERATION SOLUTIONS

- Scene Detection & Text Analytics
- Predictive Analytics
- Audio Analytics & Key-phrase Detection
- Face Recognition
- ML Reference Designs & POC

INDUSTRIES

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