

FEV Signature Solutions

ALiVA – Automated lidar image video annotator



Harnesses the power of AI for your ADAS/AD reference data generation with FEV's automated annotation framework

FEV offers

- Stand-alone & on cloud ADAS data annotation & labelling framework for vision and lidar data
- AI models and cognitive algorithms for meticulous data labelling of diverse road assets, events and scenarios detection & segmentation feature
- Comprehensive scene understanding through assets tracking and movement trajectory analysis
- Review feature to manually inspect, refine, and manage auto-annotation results with ease
- Report generation to track review actions and analytics providing insights of modified annotations
- Self-learning architecture, automatic optimization & retuning of models
- Highly customizable, swift integration of new road asset classes

Why FEV

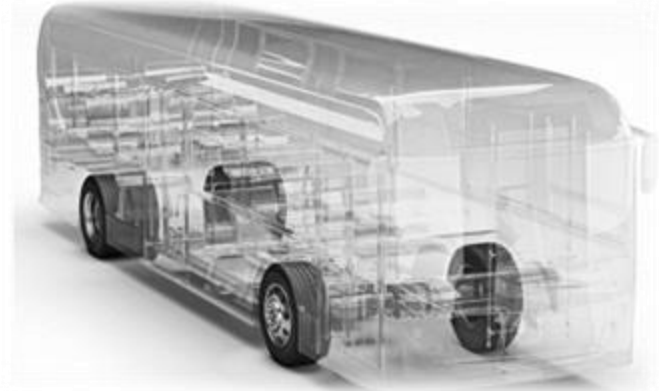
- With over 45 years of experience in sustainable mobility, FEV has set industry standards in ADAS
- FEV has expertise in ADAS functionality development and validation
- Significantly reduces annotation efforts and time by ~80%
- Customization by FEV to exactly address customer's demands
- Shorter optimization time to meet customer prerequisite
- Proven framework applied to multiple customer's requirements



Reference projects

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European OEM



- Framework customization for annotation and labelling of AHBC (Automatic High Beam Control) specific objects & scenarios
- Framework customization to accommodate custom metadata requirements
- Addition of newer features based on requirements, e.g., object range inference algorithm

Asian OEM



- Adaptation of algorithms in framework for labelling erratic on road assets
- Tuning of AI models for detection and classification of various scenarios and events
- Addition of video content-based analysis functionality for simulation of scenarios and events
- Toolchain for automated annotation of entire field operation test data

Supported functions and features

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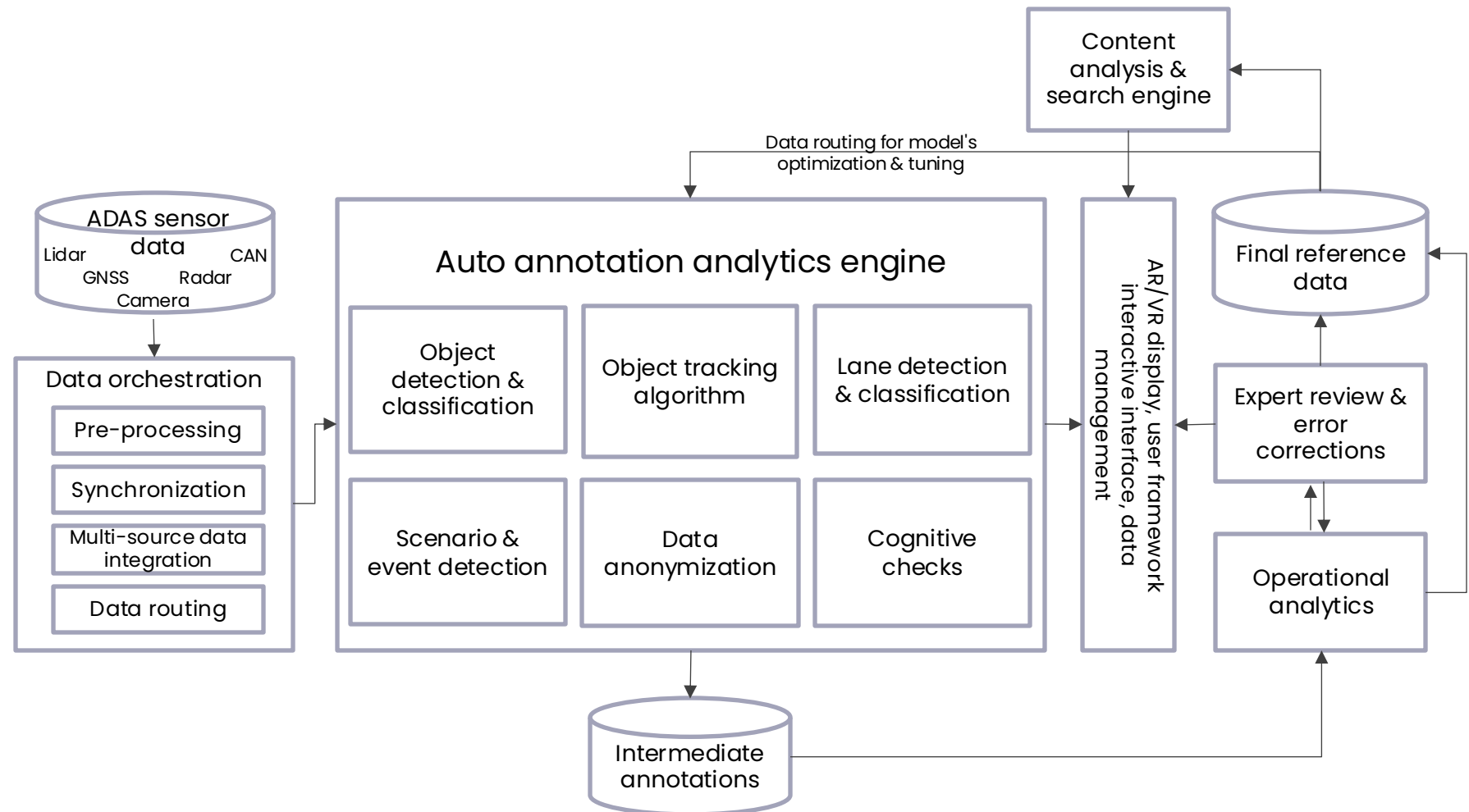
Data orchestration	Advanced management and synchronization of diverse data streams & multi modal data
Anonymization	AI driven anonymization techniques for the automated masking of personal identifiers
Auto annotation	Cutting-edge AI technology enabling annotation of diverse on-road and off-highway assets
Lane detection	AI models optimized for multi-lane detection and lane type classification
Scenario & event detection	AI technology integrated with rule-based engines allows for scenario & event detection & segmentation
Cognitive algorithms	Advanced object tracking, accurate distance estimation, meta-data integration, cognitive filtering
Manual review functionality	Pivotal quality control mechanism, enabling expert annotators to review and rectify annotation
Operational analytics	Analytics report providing insights on data distribution, annotation time & corrective actions taken in review
Content based analysis	Retrieval of required scenarios & associated metadata, from pool of segmented scenarios
Self-learning functionality	Automatic model performance checks, accumulation of reference data & review results, model optimization

ALiVA framework functional blocks

- Data orchestration and management techniques handling huge volume of data
- State-of-the-art AI object detection and classification models along with object tracking
- Segmentation models for lane detection and type classification
- AI models for the automatic anonymization of personal identifiers
- Supports wide array of on-road and off-highway assets
- Scenarios detection and segmentation for various driving conditions
- Cognitive algorithms resisting false annotation & labelling
- AI assisted semi-automated annotation reviewing functionality
- Operational analytics report to gain valuable insights
- Self-learning architecture empowering models and algorithm re-tuning, optimization

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