The AI Edge: School/Education Video Security Monitoring

Release 4 TSC Review
The purpose of the AI Edge School/Education Video Security Monitoring Blueprint is to establish an open source MEC platform combined with AI capacities at the edge, which could be used for safety, security, and surveillance.
Video Security Monitoring Software Components

Edge Scene & Solutions
- Edge Serverless
- Edge Transcoding
- V2X
- 4K/8K Video
- AR/VR
- Cloud Gaming

Components
- 3rd SaaS/PaaS Interface
- 5G MEC Interface
- Device-Edge-Cloud Cooperation
- Private Cloud

PaaS
- OpenAPI
- Micro-Service Framework
- Scheduler
- Optimization For AI
- Data/Log
- Upgrade
- Multi-tenant
- Monitoring/Warning
- Fault Management
- Orchestration (vm&containers)
- Cluster Controller
- Edge Traffic Access
- Load Balance
- Image Management
- Application/Service Deployment
- MEC Cluster Shim

IaaS
- Docker
- Kata Containers
- KVM
- CPU&Memory
- GPU
- Network
- Bandwidth
- Storage

Edge Resource
- CDN Node
- MEC Node
- 3rd Edge Clusters/Machines
- Machine/Node Management

OTE Web
- OTE PaaS
- OTE IaaS

Edge Security

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Cluster Controller maintains tree topology
1. selector, cluster label screening;
2. Operator & scheduler, sub-cluster task scheduling assignment;
3. edge-tunnel & edge-handler, connect parent node and process command
4. Router, maintain routing table of all descendant clusters
5. cloud-handler & cloud-tunnel, command conversion and subcluster connection

Cluster adaptation layer, responsible for accessing different types of clusters

1. Provide multiple runtime nodes to support the generation of various IaaS resources
2. Provide high performance, container network components that support network policies

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Video Security Monitoring Documentation

The following Wiki pages include Video Security Monitoring documentation for Release 4 and have been approved by the TSC Documentation Sub-committee:

- Video Security Monitoring R4 API Document
- Video Security Monitoring R4 Architecture Document
- Video Security Monitoring R4 Release Notes
- Video Security Monitoring R4 Test Document
## Video Security Monitoring Use Cases

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Description</th>
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<tbody>
<tr>
<td>Security Monitoring</td>
<td>Conduct smoke detection on densely populated places such as industrial parks and community properties to quickly detect whether there is a fire, reduce the damage caused by fire, and improve the safety of the park.</td>
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<td>Classroom concentration analysis</td>
<td>Conduct a full evaluation of the overall class and the concentration of individual students, help teachers and school authorities to fully understand the teaching situation, according to the concentration data of each course, conduct targeted class knowledge test and strengthen.</td>
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<td>Factory safety production</td>
<td>By identifying whether employees wear helmets, safety gloves, etc., monitor and evaluate the work of workers in the workshop to help companies monitor the safety production status in a comprehensive and timely manner. Statistical results and analytical data can be used as a reference for strengthening the level of safety production management.</td>
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<td>Kitchen hygiene monitoring</td>
<td>Monitor staff’s smoking and cell phone behavior in the kitchen of the catering industry, ensuring the safety and hygiene of the food production process.</td>
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<tr>
<th>Detection</th>
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**AKRAIN0**