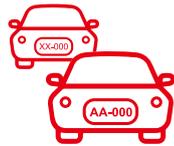


LILIN Aida Intelligent Traffic Management Solutions

By utilizing AI technologies, LILIN Aida software develops object classification and identification technology, which can detect vehicles and pedestrians, providing counting and stay time detection. Aida also provides traffic issue solutions including parking violation detection, queuing detection, average speed detection via LILIN VMS and traffic statistics management.



LILIN advantages



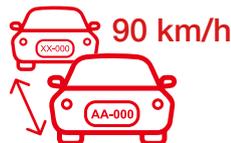
Multi-lane and
high-speed
accurate detection



Traffic objects
and flow
detection



Parking space
counting



Average Speed
Estimation



Traffic Violation
Detection



Customized
reports

Key Vertical Applications



Highway



Parking Area



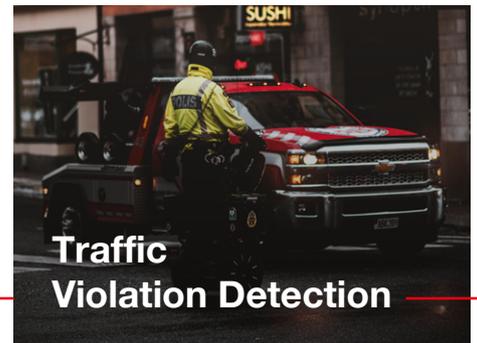
Airport



City Traffic



Gas Station



Traffic Violation Detection

Aida Traffic Management Solution

City traffic flow management

1. LILIN AI system can detect multiple objects, including pedestrians, bicycles, cars, motorbike, bus, truck, trailer, TUK TUK and pickup truck detection.
2. Provide real-time traffic vehicle route and violation statistics chart to effectively improve city traffic.
3. Utilizing the NAV Client management system to obtain real-time vehicle queue statistics report and big data report.
4. Queuing detection and traffic jam detection with alarm notification.
5. Traffic, left and right turn and wrong way counting.



Left or Right Turn Flow Counting



Queuing Detection



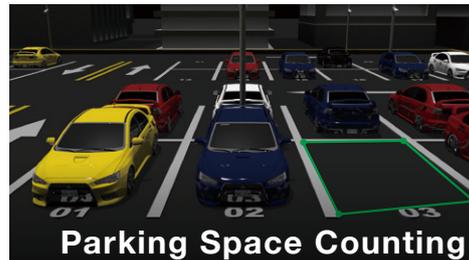
Parking Violation

Parking violation solution

1. Trigger recording / send snapshots with ANPR when violations are detected.
2. Analyze the number of parking spaces in a given area.
3. Visualize data using Navigator client.

Parking space counting

1. Analyze the number of parking spaces in a given area.
2. Visualize data using Navigator client.



Traffic violation management

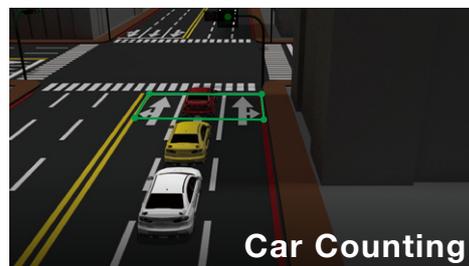
LILIN AIDA intelligent traffic solutions can immediately detect traffic violations and notify the appropriate party or governmental department.

Some examples include:

1. Detect a freight truck driving in a restricted zone / lane.
2. Count motorcycles driving on highway lanes.
3. Detect vehicles running red lights, making illegal u-turns, etc.

People and car counting

1. Effectively analyze the capacity of people and cars in an environment.
2. Provide traffic flow statistics for the control of traffic signals.



Estimate speed management

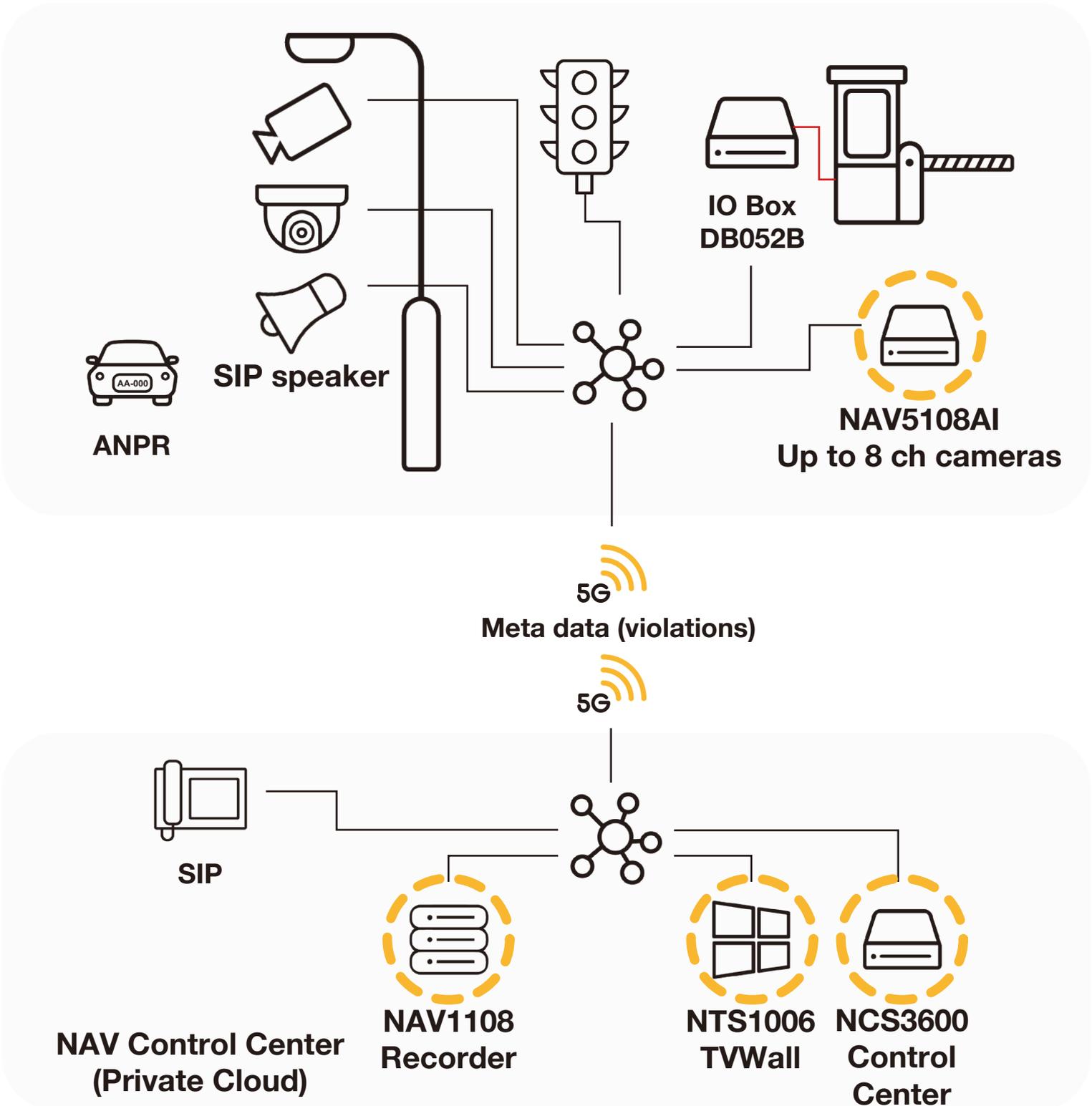
1. Traffic congestion & distance detection for freeway.
2. Estimating traffic speed management.

Aida Power Recognition

| Item | Aida power/Channel |
|-------------------------------------|--------------------|
| License plate recognition (Parking) | 1 Aida power |
| License plate recognition (Freeway) | 2 Aida power |
| Traffic objects recognition | 2 Aida power |

*Aida power: Software unit for calculating hardware performance

Aida Traffic Management Architecture Diagram



Statistical Chart

1. Support vehicle types and demonstrate statistical graphs by time interval.
2. Support statistics chart of violation events.
3. Support hourly, 7 days, 30 days and 60 days interval to count several intersections.
4. Support line graph, pie graph and stride rate chart.

Chart

Appearance #002

Chart Name:

Chart Type: Stepped chart

Time Range: Last 60 days

Time Format: HH:MM MM/DD

Period: 4 Hours

Comparison of: Vehicle Type

All

Behavior

- Zone Violation
- Parking Spot
- Parking Violation
- Traffic Flow
- Turn Left
- Turn Right
- Wrong Way
- Turn Left Violation
- Turn Right Violation
- Queuing
- U-turn Violation
- Run the red light (Straight)
- Run the red light (Left)
- Run the red light (Right)

All

Vehicle Type

- Person
- Bicycle
- Car
- Motorbike
- Aeroplane
- Bus
- Train
- Truck
- Boat
- TUK TUK
- Truck trailer
- Pickup truck
- Fire engine
- SUV
- Van

All

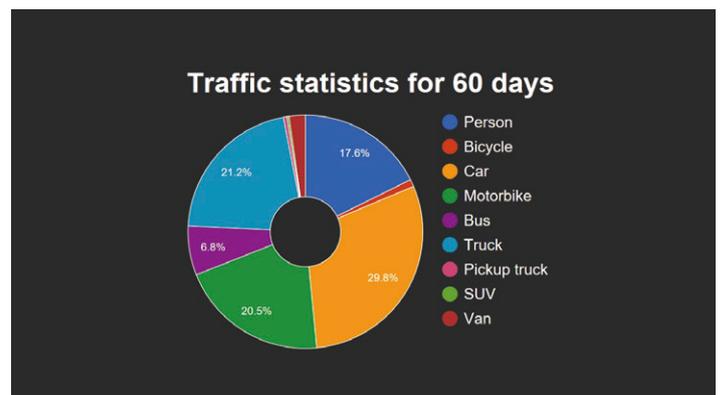
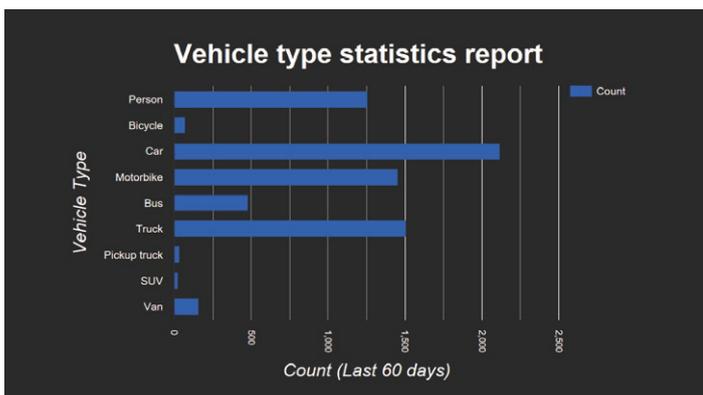
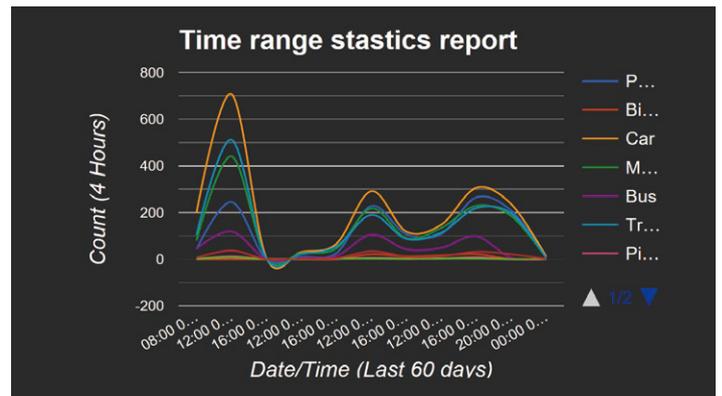
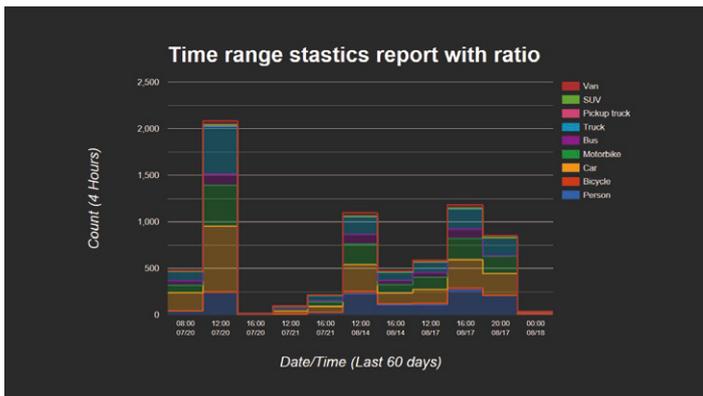
Camera

- Cam 001
- Cam 002

Remote host

- LAPTOP-2GMJ3...
- LAPTOP-2GMJ3...

OK CANCEL



AIANPR Aida license plate recognition

www.meritlilin.com



The image visual recognition technology of traditional license plate recognition is on the 2D plane, and the object induction is too divergent to be accurately recognized. LILIN Aida license plate recognition develops object classification and identification technology by AI technology. Its recognition rate is up to 99.6%, and it can be accurately recognized even at high speed and multiple lanes. It also supports license plate recognition of super-inclined installation angles, multinational license plate recognition, and multi-color license plate recognition, and provides real-time analysis and alarm system, effectively helps governments to conduct smart traffic management.

Aida license plate recognition

| Functions | |
|---|--|
| Product code | AIANPR |
| Aida identity performance requirement | 2 Aida power |
| Recognition speed | 166 ms |
| Support image import | LILIN IP Cam , ONVIF IP Cam, RTSP, DHD, NVR, AVI video file |
| Maximum object recognized in a frame | 4 number plates / frame |
| Lane restriction | The number of lanes with unlimited recognizable range, the license plate width must be greater than 100 pixels |
| Recognition zone | 4 zones |
| AI recognition resolution requirement | Plate width over 100 pixels |
| Object size filter | Supported |
| License plate background filter | Exclusive patent* Precisely recognize the number in license plate, filter the background text |
| Video resolution | 1920 * 1080 or lower |
| User management with access rights | Three levels and multi-account |
| Recording | Navigator Corporate |
| Language supported | Traditional Chinese, English, Japanese, Italian |
| Country supported | Taiwan, Australia, Austria, Belgium, Italy, Croatia, France, Turkey, Germany, UK, Indonesia(support states), Japan(support city), Saudi Arabia, UAE, Iran, Iraq, Oman, Dubai, Malaysia, Hong-Kong, Macau, Vietnam, Singapore, USA 50 states, Guam, and Puerto Rico, India/Nepal,Thailand(support states) |
| Vehicle detection speed | 200kmh/125mph |
| Recognizable license plate color | White on black, Yellow on black, Green on black, Black on White, Red on white, White on red, Green on white, White on green |
| States / provinces | USA, Middle East, Japan, Indonesia |
| Inclination angle of license plate | Tilt angle is less than 15 degrees |
| Camera installation angle | the angle of depression is less than 30 degrees downward, and the left and right sides need to be less than 30 degrees |
| Support "-" recognition for plates | Supported |
| Support OSD unicode for license plate | Supported |
| NAV detection area | Configurable |
| NAV the length of plate digits | Configurable |
| NAV exclusion list | Configurable |
| NAV smart search and playback | Support fuzzy comparison |
| NAV snapshots and playback | PIP and OSD text overlay |
| NAV alarm management on detection | Full screen alarm popup after plate is recognized, PC audio alarm, trigger IPC digital output(DO), send email notification, PTZ preset, LILIN IOBOX digital output, alarm snapshot and digital output, LILIN notify manager |
| Support denial and allowed list | Supported |
| Support plate group creation | 125 group |
| Alarm popup on e-map | Supported |
| License plate recognition schedule | Supported |
| Integration with access control system (optional) | Supported |
| License plate group import and export | Supported |
| Central management | Supported |
| Recognition report export | CSV file |

Exclusive value-added program (optional)

| | |
|---|--|
| Can display multiple license plate recognized | Support 128 license plate server recognition and real-time display |
| Can do batch import of license plate group | Supported |
| Column type license plate recognition display | Time, name, channel, drive license plate group, recognition result, image thumbnail |
| Video capture | Supported |
| Video file download | Supported |
| Multiple license plate search | Supported |
| Car plate search mode | Start-stop times, NAV group, completed drive license plate, fuzzy search and end of license plate search |

Alarm notification

| | |
|--|---|
| HTTP post notification | LILIN smart IO box(DB052E), LILIN LED display, third-party network device, or cloud |
| HTTP | 16 |
| HTTPs push notification with JPEG snapshot | 16 |
| Digital output | Controllable via IP cameras or LILIN Network I/O Box |

System requirements

| | |
|-----------------------|---------------------------------|
| Suggested CPU | Intel® i7 or above |
| External graphic card | Intel® HD Graphics 630 or above |
| CPU | PMH-XM2280 or above |
| GPU | Intel® Movidius™ NCS2 or above |
| GPU | NVidia 1050 4G or above |
| System memory | RAM 16G (recommended) |
| OS requirement | Windows 10 Enterprise SAC |

*Exclusive patent number: I702547

AIFLOW Aida traffic flow management

www.meritlilin.com



LILIN Aida traffic flow management precisely detects multiple objects, such as pedestrians, bicycles, cars, motorbike, bus, truck, trailer, TUK TUK, and pickup truck detection. Manage traffic flows in real-time and sends alarm notifications when traffic congestion is detected, effectively diverting city traffic. Besides, utilizing the NAV Client management system to obtain big data report.

Aida traffic flow management

Functions

| | |
|---------------------------------------|---|
| Product code | AIFLOW |
| Aida identity performance requirement | 2 Aida power |
| Recognition speed | 250 ms |
| Support image import | LILIN IP Cam , ONVIF IP Cam, RTSP, DHD, NVR, AVI video file |
| Support AI engine | Traffic management |
| Maximum objects recognized in a frame | 24 objects / frame |
| Zone configuration | 4 zones / per channel |
| Recognition resolution requirement | Recognize object size 100x100 pixels or above |
| Object size filter | Supported |
| Object type filter | Supported |
| Video resolution | 1920 * 1080 or lower |
| User management with access rights | Three levels and multi-account |
| Recording | Navigator Corporate |
| Language supported | Traditional Chinese, English, Japanese, Italian |

Traffic flow management

| | |
|------------------------------|--|
| Object recognition | Bicycle, car, motorbike, bus, train, truck, TUK TUK, pickup truck, fire engine, container, VAN, SUV, person, traffic light |
| Traffic light identification | Supported |
| Behavior counter | 64 counter for behavior detection and cross channel |
| Recognition area selection | Support rectangle and four corners to move randomly to circle the identification area |
| Behavior detection | Traffic flow count, such as go straight, turn left, turn right, reverse detection, queue detection |

Statistics and counter reports

| | |
|--------------------------------|---|
| NAV statistics report | Vehicle flow, vehicle types, people counting, behavior counting, and color counting |
| NAV statistics report type | Web based pie chart, bar chart, and line chart JPEG snapshot supported |
| NAV statistical chart interval | 7 days, 30 days, 60 days |
| NAV statistics summary | Camera, object classification, behavior summary report |
| NAV counter | Support warning line, warning area and alarm notification |
| Statistical report output | CSV file |

Alarm notification

| | |
|--|---|
| HTTP post notification | LILIN smart IO box(DB052E), LILIN LED display, third-party network device, or cloud |
| HTTP | 16 |
| HTTPs push notification with JPEG snapshot | 16 |
| Support Line notification | IFTTT |
| Digital output | Controllable via IP cameras or LILIN Network I/O Box |
| LILIN LED display | Supported |

System requirements

| | |
|-----------------------|---------------------------|
| Suggested CPU | Intel® i7 or above |
| External graphic card | NVidia 2060 4G or above |
| System memory | RAM 16G (recommended) |
| OS requirement | Windows 10 Enterprise SAC |

AIAREA Aida parking violation solution

www.meritlilin.com



LILIN Aida parking violation solution integrates the AI vehicle detection system and the alert area to accurately detect parking violations. Detect no-parking areas including hospitals, airports, schools, bus stations, etc. Besides, it also provides snapshots and recording to help government conduct the law enforcement.

Aida parking violation solution

Functions

| | |
|---------------------------------------|---|
| Product code | AIAREA |
| Aida identity performance requirement | 2 Aida power |
| Recognition speed | 250 ms |
| Support image import | LILIN IP Cam , ONVIF IP Cam, RTSP, DHD, NVR, AVI video file |
| Support AI engine | Traffic management |
| Maximum objects recognized in a frame | 24 objects / frame |
| Zone configuration | 4 zones / per channel |
| Recognition resolution requirement | Recognize object size 100x100 pixels or above |
| Object size filter | Supported |
| Object type filter | Supported |
| Video resolution | 1920 * 1080 or lower |
| User management with access rights | Three levels and multi-account |
| Recording | Navigator Corporate |
| Language supported | Traditional Chinese, English, Japanese, Italian |

Parking violation solution

| | |
|------------------------------|--|
| Object recognition | Bicycle, car, motorbike, bus, train, truck, TUK TUK, pickup truck, fire engine, container, VAN, SUV, person, traffic light |
| Traffic light identification | Supported |
| Behavior counter | 64 counter for behavior detection and cross channel |
| Violation timer | 64 |
| Recognition area selection | Support rectangle and four corners to move randomly to circle the identification area |
| Behavior detection | Traffic flow count, such as go straight, turn left, turn right, reverse detection, queue detection |

Statistics and counter reports

| | |
|--------------------------------|---|
| NAV statistics report | Vehicle flow, vehicle types, people counting, behavior counting, and color counting |
| NAV statistics report type | Web based pie chart, bar chart, and line chart JPEG snapshot supported |
| NAV statistical chart interval | 7 days, 30 days, 60 days |
| NAV statistics summary | Camera, object classification, behavior summary report |
| NAV counter | Support warning line, warning area and alarm notification |
| Statistical report output | CSV file |

Alarm notification

| | |
|--|---|
| HTTP post notification | LILIN smart IO box(DB052E), LILIN LED display, third-party network device, or cloud |
| LILIN LED display | Supported |
| HTTP | 16 |
| HTTPs push notification with JPEG snapshot | 16 |
| Support Line notification | IFTTT |
| Digital output | Controllable via IP cameras or LILIN Network I/O Box |

System requirements

| | |
|-----------------------|---------------------------|
| Suggested CPU | Intel® i7 or above |
| External graphic card | NVidia 2060 4G or above |
| System memory | RAM 16G (recommended) |
| OS requirement | Windows 10 Enterprise SAC |

AIVIO Aida traffic violation

www.meritlilin.com



LILIN Aida traffic violation can detect traffic violations in real-time, such as running red traffic lights, wrong-way detection, no U-turn, no left turn detection, the truck violation for entering a city, and motorbike freeway entering detection. Effectively help government conduct the law enforcement.

Aida traffic violation

Functions

| | |
|---------------------------------------|---|
| Product code | AIVIO |
| Aida identity performance requirement | 2 Aida power |
| Recognition speed | 250 ms |
| Support image import | LILIN IP Cam , ONVIF IP Cam, RTSP, DHD, NVR, AVI video file |
| Support AI engine | Traffic management |
| Maximum objects recognized in a frame | 24 objects / frame |
| Zone configuration | 4 zones / per channel |
| Recognition resolution requirement | Recognize object size 100x100 pixels or above |
| Object size filter | Supported |
| Object type filter | Supported |
| Video resolution | 1920 * 1080 or lower |
| User management with access rights | Three levels and multi-account |
| Recording | Navigator Corporate |
| Language supported | Traditional Chinese, English, Japanese, Italian |

Aida traffic violation

| | |
|------------------------------|---|
| Object recognition | Bicycle, car, motorbike, bus, train, truck, TUK TUK, pickup truck, fire engine, container, VAN, SUV, person, traffic light |
| Traffic light identification | Supported |
| Behavior counter | 64 counter for behavior detection and cross channel |
| Behavior Timer | 64 |
| Recognition area selection | Support rectangle and four corners to move randomly to circle the identification area |
| Violation detection | Detect traffic violations based on vehicle type and identification of traffic lights after triggering, such as running red traffic lights, wrong way detection, no U-turn, no left turn detection and red light right turn violation. |

Statistics and counter reports

| | |
|--------------------------------|---|
| NAV statistics report | Vehicle flow, vehicle types, people counting, behavior counting, and color counting |
| NAV statistics report type | Web based pie chart, bar chart, and line chart JPEG snapshot supported |
| NAV statistical chart interval | 7 days, 30 days, 60 days |
| NAV statistics summary | Camera, object classification, or behavior summary report |
| NAV counter | Support warning line, warning area and alarm notification |
| Statistical report output | CSV file |

Alarm notification

| | |
|--|---|
| HTTP post notification | LILIN smart IO box(DB052E), LILIN LED display, third-party network device, or cloud |
| LILIN LED display | Supported |
| HTTP | 16 |
| HTTPs push notification with JPEG snapshot | 16 |
| Support Line notification | IFTTT |
| Digital output | Controllable via IP cameras or LILIN Network I/O Box |

System requirements

| | |
|-----------------------|---------------------------|
| Suggested CPU | Intel® i7 or above |
| External graphic card | NVidia 2060 4G or above |
| System memory | RAM 16G (recommended) |
| OS requirement | Windows 10 Enterprise SAC |

AISPC Parking space counting solution

www.meritlilin.com



LILIN Aida parking space counting solution effectively analyzes the number of parking spaces in each area. Besides, utilizing the NAV Client management system to obtain big data report.

Parking space counting solution

Functions

| | |
|---------------------------------------|---|
| Product code | AISPC |
| Aida identity performance requirement | 2 Aida power |
| Recognition speed | 250 ms |
| Support image import | LILIN IP Cam , ONVIF IP Cam, RTSP, DHD, NVR, AVI video file |
| Support AI engine | Traffic management |
| Maximum objects recognized in a frame | 24 objects / frame |
| Zone configuration | 4 zones / per channel |
| Recognition resolution requirement | Recognize object size 100x100 pixels or above |
| Object size filter | Supported |
| Object type filter | Supported |
| Video resolution | 1920 * 1080 or lower |
| User management with access rights | Three levels and multi-account |
| Recording | Navigator Corporate |
| Language supported | Traditional Chinese, English, Japanese, Italian |

Parking space counting solution

| | |
|------------------------------|--|
| Object recognition | Bicycle, car, motorbike, bus, train, truck, TUK TUK, pickup truck, fire engine, container, VAN, SUV, person, traffic light |
| Traffic light identification | Supported |
| Behavior counter | 64 counter for behavior detection and cross channel |
| Recognition area selection | Support rectangle and four corners to move randomly to circle the identification area |
| Parking detection | Can detect the vehicle whether in the current parking space and counting according to vehicle types. |

Statistics and counter reports

| | |
|--------------------------------|---|
| NAV statistics report | Vehicle flow, vehicle types, people counting, behavior counting, and color counting |
| NAV statistics report type | Web based pie chart, bar chart, and line chart JPEG snapshot supported |
| NAV statistical chart interval | 7 days, 30 days, 60 days |
| NAV statistics summary | Camera, object classification, or behavior summary report |
| NAV counter | Support warning line, warning area and alarm notification |
| Statistical report output | CSV file |

Alarm notification

| | |
|--|---|
| HTTP post notification | LILIN smart IO box(DB052E), LILIN LED display, third-party network device, or cloud |
| HTTP | 16 |
| HTTPs push notification with JPEG snapshot | 16 |
| Support Line notification | IFTTT |
| Digital output | Controllable via IP cameras or LILIN Network I/O Box |
| LILIN LED display | Supported |
| Multi-camera and multi-area vehicle vacancy guidance | LILIN LED display |
| Multiple cameras and multiple entrances and exits traffic flow display | LILIN LED display |

System requirements

| | |
|-----------------------|---------------------------|
| Suggested CPU | Intel® i7 or above |
| External graphic card | NVidia 2060 4G or above |
| System memory | RAM 16G (recommended) |
| OS requirement | Windows 10 Enterprise SAC |

AICAP People and car counting

www.meritlilin.com



LILIN people and car counting for premises' capacity solution effectively analyze the capacity of humans and cars in a premises area and provide traffic flow statistics for the control of traffic signals.

People and car counting

Functions

| | |
|---------------------------------------|---|
| Product code | AICAP |
| Aida identity performance requirement | 2 Aida power |
| Recognition speed | 250 ms |
| Support image import | LILIN IP Cam , ONVIF IP Cam, RTSP, DHD, NVR, AVI video file |
| Support AI engine | Traffic management |
| Maximum objects recognized in a frame | 24 objects / frame |
| Zone configuration | 4 zones / per channel |
| Recognition resolution requirement | Recognize object size 100x100 pixels or above |
| Object size filter | Supported |
| Object type filter | Supported |
| Video resolution | 1920 * 1080 or lower |
| User management with access rights | Three levels and multi-account |
| Recording | Navigator Corporate |
| Language supported | Traditional Chinese, English, Japanese, Italian |

People and car counting

| | |
|------------------------------|--|
| Object recognition | Bicycle, car, motorbike, bus, train, truck, TUK TUK, pickup truck, fire engine, container, VAN, SUV, person, traffic light |
| Traffic light identification | Supported |
| Behavior counter | 64 counter for behavior detection and cross channel |
| Recognition area selection | Support rectangle and four corners to move randomly to circle the identification area |
| People and car counting | Can count in and out of the recognition area independently of different objects. One channel supports 4 detection zones. |

Statistics and counter reports

| | |
|--------------------------------|---|
| NAV statistics report | Vehicle flow, vehicle types, people counting, behavior counting, and color counting |
| NAV statistics report type | Web based pie chart, bar chart, and line chart JPEG snapshot supported |
| NAV statistical chart interval | 7 days, 30 days, 60 days |
| NAV statistics summary | Camera, object classification, or behavior summary report |
| NAV counter | Support warning line, warning area and alarm notification |

Alarm notification

| | |
|--|---|
| HTTP Post notification | LILIN smart IO box(DB052E), LILIN LED display, third-party network device, or cloud |
| HTTP | 16 |
| HTTPs push notification with JPEG snapshot | 16 |
| Support Line notification | IFTTT |
| Digital output | Controllable via IP cameras or LILIN Network I/O Box |
| LILIN LED display | Supported |
| Multi-camera and multi-area vehicle vacancy guidance | LILIN LED display |
| Multiple cameras and multiple entrances and exits traffic flow display | LILIN LED display |

System requirements

| | |
|-----------------------|---------------------------|
| Suggested CPU | Intel® i7 or above |
| External graphic card | NVidia 2060 4G or above |
| System memory | RAM 16G (recommended) |
| OS requirement | Windows 10 Enterprise SAC |

Exclusive value-added program (optional)

| | |
|---------------------------------|--|
| Global counter | Support multiple servers, multiple entrances and exits counting |
| WEB interface display | Supported |
| Statistics reports | Support multiple servers and multiple entrances to provide reports based on time |
| Multiple entry capacity display | Provide a WEB interface to display the multiple entry capacity |

