



Pedestrians are a vulnerable group in the road traffic environment and are highly susceptible to serious injuries in pedestrian–vehicle collisions. Pedestrian detection is essential for improving pedestrian safety in an intelligent traffic system.

NableIT has developed an Artificial Intelligence (AI) based human recognition for pedestrian Safety. It is an edge computing based real-time pedestrian recognition system that ensures high accuracy by using deep neural network algorithms and zebra-crossing recognition techniques having an efficient data communication approach to reduce bandwidth requirements while maintaining high pedestrian detection accuracy. The system can broadcast audio messages to pedestrians and audio alerts.

This system has been designed to improve pedestrian safety and reduce accidents at zebra crossings and intersections.

Advantages of NableIT’s Human Recognition System for pedestrian Safety:

- Provide Computer Vision (AI/ML) based autodetection of observation of Safety Norms at Zebra Crossing and intersections.
- Uses the Japanese PO-KE-TE-NA-SHI principals recommended for safety of Persons, which is to have multiple senses alert and engaged while walking/climbing/Crossing.
- Capability to recognize all humans within the same frame.
- Can detect and demarcate the Zebra Crossing and automatically see which persons are using it and which are not.
- Voice is integrated to say: “Thank you for using Zebra Crossing”. Or “Please use the Zebra Crossing for your Safety”
- Send out alerts and broadcast messages to pedestrians in several Indian regional languages as well as in English and other foreign languages.
- The Dashboard shows live display of persons using (and those not using) the Zebra Crossing.
- Remote Dashboard View is available to show status across all Zebra Crossings.
- Improve safety and provides positive feedback to those observing safety protocols via audio broadcast.
- Can count the persons using ZEBRA crossing using full body profile.
- The detection is done from front view as well as back of a person , so only one camera per zebra crossing will suffice.
- Support for multiple cameras; all can be viewed in multiple control rooms.
- Creates video logs related to the video footage with timestamp.

Generic Features:

- Uses edge computing architecture and can reside on any edge device
- System is scalable to any number of cameras connected in edge devices and server configurations.
- Application can be installed on a cloud of customer's choice.
- Customizable as per individual organization's requirements.
- Several MIS reports available for use of safety departments of the organization.
- Data Protection as system does not store any biometric information.

Use case: Pedestrian Safety for Workers inside a large Manufacturing Plant having heavy volume of Trucks and other Vehicular Traffic

Based on the client's requirements, the Human Recognition System for Pedestrian Safety for workers was customized with the following features:

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- Provided Computer Vision (AI/ML) based autodetection of observation of Safety Norms at Zebra Crossings within the clients' Manufacturing Plant.
- PO-KE-TE-NA-SHI principals were used for safety of Personnel.
- Counted the number of persons using ZEBRA crossing using full body profile.
- The speaker played a "Zebra Crossing Par Chalne Ke Liye Dhanyavad" message whenever people used the Zebra Crossing to cross the road.
- The Dashboard shows live display of persons using (and those not using) the Zebra Crossing.
- Remote Dashboard View was made available to show status across all Zebra Crossings.
- Improved safety and provided positive feedback to those observing safety protocols via audio broadcast.

This system has been deployed to improve pedestrian safety of personnel and reduce accidents at zebra crossings by providing positive reinforcements via broadcasts for using zebra crossings inside the plant.

For a demonstration and inquiries

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