NBN Sinhgad School of Engineering
Department of Information Technology

Project Review Presentation

On

IndShield

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Abstract

The Industrial AI platform is designed to enhance safety and security in industrial environments through the integration of advanced artificial intelligence technologies. The system focuses on addressing critical safety challenges such as compliance with safety protocols, fire detection, unauthorized access, and ensuring the proper use of safety gear.

Key features include pose alert, fire detection, safety gear monitoring, and restricted area access control. The platform integrates with existing industrial systems and operates in real-time, utilizing AI algorithms and connected hardware like cameras and sensors. This solution aims to improve industrial safety, reduce risks, and ensure regulatory compliance across diverse sectors.

Index Terms: Surveillance, Object detection, Security, CCTV

Introduction

Industrial AI is an advanced platform designed to enhance safety and security in industrial environments using AI technologies. It addresses key challenges such as safety compliance, fire detection, unauthorized access, and safety gear monitoring. The system integrates features like pose alerts and restricted area monitoring, ensuring real-time responses to potential hazards.

Designed for scalability and easy integration with existing systems, Industrial AI aims to create safer workplaces by improving monitoring, ensuring compliance with safety regulations, and reducing risks across diverse industrial sectors.

Motivation

The motivation behind the Industrial AI platform stems from the need to address **persistent safety and security challenges** in industrial environments. Issues such as non-compliance with safety protocols, fire hazards, and unauthorized access pose significant risks to personnel and assets. By leveraging AI, this platform aims to enhance real-time monitoring, improve safety measures, and ensure regulatory compliance, ultimately fostering a safer and more secure industrial workspace.

The **goal** is to minimize accidents, prevent costly damages, and create a more efficient safety management system.

Worker Deaths in Factory Settings in India (2016-2021)

Literature Survey

AI technologies are increasingly used to enhance safety in industrial environments, with research showing effectiveness in areas like fire detection, pose recognition, and safety gear monitoring. Traditional systems focus on isolated features, but Industrial AI integrates multiple safety functions—such as **pose alerts, fire detection, and restricted area monitoring**—into a unified solution.

This comprehensive approach aligns with recent studies, emphasizing the need for scalable and real-time AI-driven systems to improve industrial safety and security.

Design
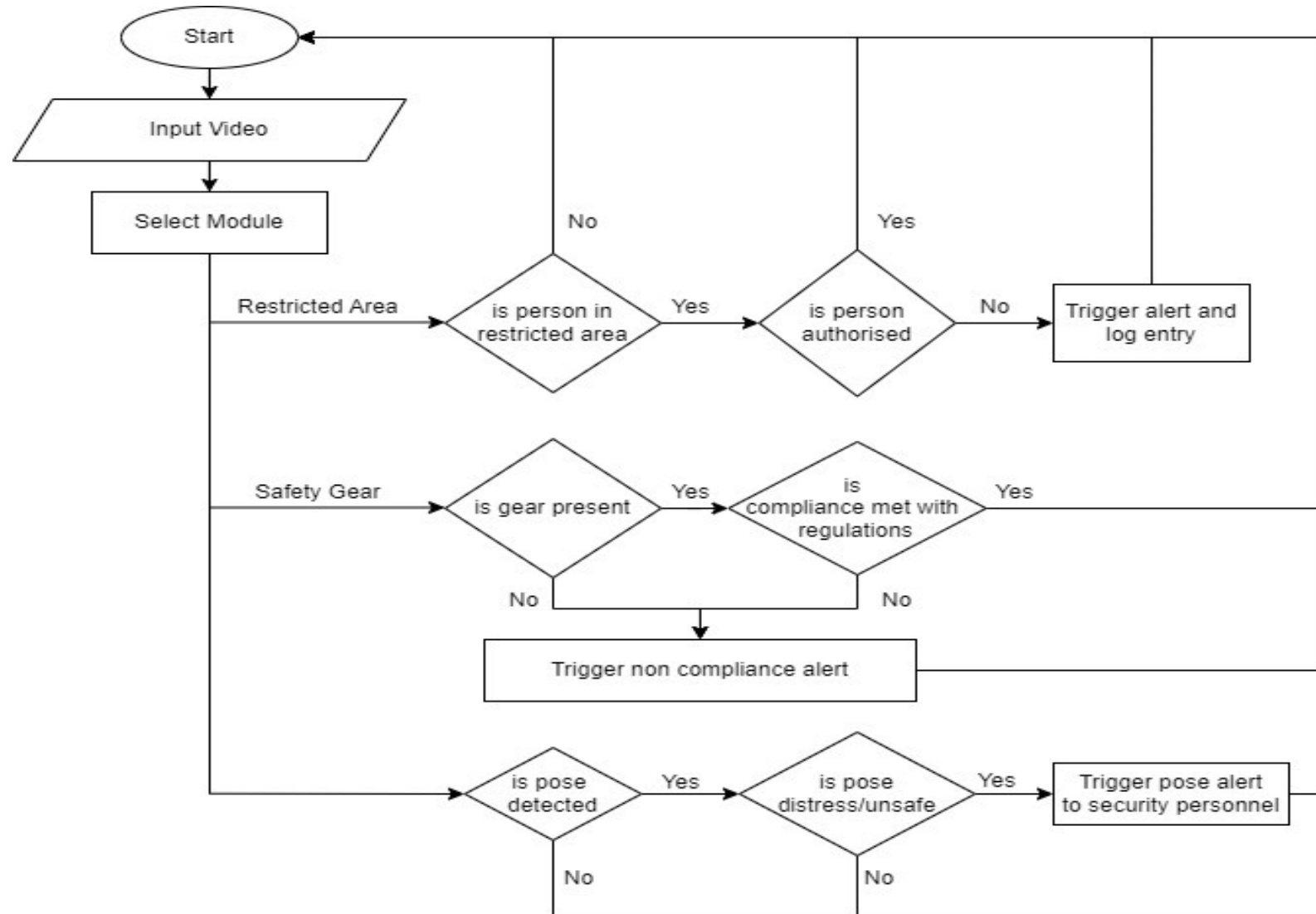
Scope and Analysis

The scope of Industrial AI includes the development and deployment of a comprehensive solution for industrial environments to enhance safety and security operations. The platform will integrate AI technologies to provide features such as pose alert, fire detection, safety gear detection, and restricted area monitoring.

The project will focus on industrial environments without specific limitations to particular sectors or companies

Applications / Advantages

- Reduced workplace accidents and injuries.

- Increased operational efficiency and productivity.

- Lowered costs associated with downtime And workplace incidents.

- Enhanced compliance with safety regulations and standards.

- Improved employee morale and retention due to a safer work environment.

Conclusions

- Achieving a balance between safety and efficiency is essential for sustainable industrial growth.

- Integrating advanced technologies can significantly enhance both safety and operational performance.

- A focus on safety contributes to improved productivity, cost savings, and employee well-being.

- Continuous improvement and innovation are key to maintaining high standards of safety and efficiency.

References

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Thank you