

Clearer Vision. Safer Venues. Smarter Operations.

AI-Enabled Computer Vision

Overview

ProHawk AI empowers stadium operators, security teams, and venue management with real-time video clarity and AI-driven insights to manage events safely, efficiently, and at scale. Leveraging patented AI-enabled computer vision restoration—powered by NVIDIA[®] GPU accelerated computing with CUDA[®] parallel processing for every pixel—ProHawk AI restores degraded video streams impacted by low light, glare, weather, or crowd density. This transforms underperforming camera feeds into actionable visual intelligence, enabling faster incident response, optimized crowd flow, and enhanced situational awareness without replacing existing infrastructure.

Whether hosting sports, concerts, or large-scale public gatherings, ProHawk AI ensures that every zone—inside and outside the stadium—is visible, trackable, and ready for high-performance operational control.

Key Challenges

Poor Visibility From Environmental Conditions

Glare, shadows, night lighting, fog, & rain degrade visibility in critical areas like entrances, concourses, & seating zones.

Crowd Density & Flow Monitoring

Ingress & egress high foot traffic complicates the detection of abnormal movement, bottlenecks, or security issues.

Incident Detection & Response

Obstructed or unclear video feeds delay detection of medical emergencies, altercations, or suspicious behavior.

Perimeter & Parking Lot Monitoring

Low visibility in outer areas can hinder traffic coordination, license plate recognition, and parking enforcement.

Infrastructure Constraints

Aging or fixed-position cameras may not provide the clarity needed for modern AI models and real-time decision-making.

Key Benefits and Outcomes

ProHawk AI brings a powerful shift in stadium event operations by transforming existing camera systems into intelligent, real-time visual tools. By restoring clarity in low light, glare, and poor weather conditions, ProHawk AI enhances visibility throughout the venue—supporting faster incident response, optimized crowd flow, and elevated fan safety. Stadium operators gain operational control without the need for costly camera upgrades, enabling smarter, faster, and more cost-effective event management.

• Improved Crowd Safety

Restored visibility allows for faster detection of medical events, disturbances, or unsafe crowd behavior.

• Faster Incident Response

Real-time clarity enables command centers to quickly assess and respond to emergencies in any lighting condition.

• Operational Efficiency

Reduces manual monitoring and staff load through improved video analytics and AI model performance.

• Maximized Infrastructure ROI

Improves existing camera feeds without costly replacements or thermal imaging upgrades.

• Optimized Fan Experience

Supports smoother ingress, egress, and flow throughout the venue, improving the overall event experience.

AI-Powered Stadium Intelligence for Safer, Faster, High-Impact Events

ProHawk AI's stadium management solution restores degraded video streams in real time using patented AI and NVIDIA GPU-accelerated computing—delivering crystal-clear visibility across the venue, even in low light, glare, or harsh weather. ProHawk AI boosts the accuracy of any NVIDIA DeepStream-supported model by improving existing cameras, for incident detection, crowd and traffic flow management, & perimeter monitoring. Leveraging ProHawk AI as a pipeline platform, it seamlessly integrates with VMS and command systems to help stadiums elevate safety, streamline operations, and enhance the fan experience—without costly infrastructure upgrades.



As a GPU-accelerated solution powered by NVIDIA, ProHawk AI transforms degraded or low-quality stadium video streams into clear, actionable footage in real time—enabling rapid detection of medical incidents, crowd disturbances, & perimeter breaches. Built on the NVIDIA Metropolis Vision AI stack, it delivers as fast as 3ms latency and up to 30× faster video restoration, ensuring reliable visibility even in low light, glare, fog, or rain. By boosting performance to existing camera infrastructure, ProHawk AI eliminates the need for costly upgrades or thermal imaging systems—cutting hardware costs by up to 60%. Stadiums benefit from faster response times, improved safety, smoother crowd flow, & more efficient event operations—delivering strong ROI and a better experience for fans & staff.

Use Case	Result
Entrance & Concourse Monitoring	Ensures clear visibility of crowd movement and access points during peak ingress and egress.
Seating Area Incident Detection	Enables fast identification of disturbances, medical needs, or unauthorized activity in dense spectator zones.
Parking Lot & Traffic Management	Improves vehicle tracking and routing before and after events by restoring visibility in external areas.
Perimeter Security	Improves detection of loitering, unauthorized access, or suspicious behavior around restricted zones.
Post-Event Review & Audit	Provides high-quality video for analysis of crowd behavior, incident investigation, and operational improvements.

Feature	Requirement
Compatible NVIDIA Hardware	NVIDIA Jetson Orin™ & NVIDIA RTX™ Pro – Blackwell, Ada Lovelace
Supported Input Formats	Image & Video Files, RTSP Camera Stream
Supported Operating Systems	MS Windows Server 2019/2022/2025 & Ubuntu 20.04/22.04

ProHawk AI brings the clarity and control needed to run stadium events at the highest level of safety, efficiency, and fan experience. Accelerated computing by NVIDIA Jetson™ at the edge and scaling up to data center-class NVIDIA GPUs, it turns every camera feed into a reliable source of intelligence—regardless of lighting or weather—helping venues move from reactive to proactive operations. Smarter, safer stadiums start with clearer vision.

