

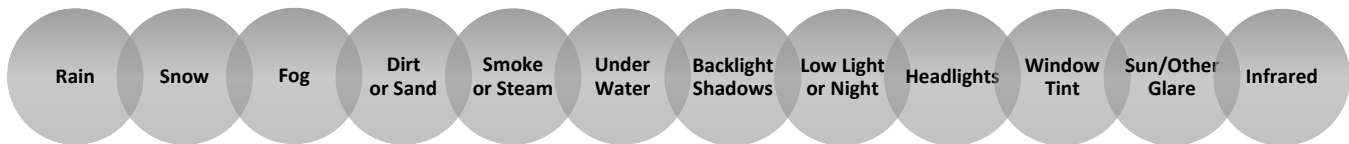
AI-Enabled Computer Vision

ProHawk Vision Software Developers Kit (SDK) represents a groundbreaking library that uniquely transforms real-time video on a pixel-by-pixel basis, overcoming diverse environmental challenges such as rain, snow, sand, pollution, and debris. It effectively converts video under nighttime conditions and other hazardous scenarios to daylight-like clarity, unmatched in visual quality and safety. Unlike traditional methods that process entire images, the ProHawk Vision SDK's Application Programming Interfaces (APIs) utilize advanced AI/CV algorithms to analyze each pixel in relation to its surroundings. This pixel-level approach ensures that live video streams are not only comprehensible but also optimized for human viewing, video analysis (VA), and artificial intelligence (AI) applications.

ProHawk Vision works within less than a blink of an eye (<3 milliseconds) allowing earlier and greater object detection and confidence levels, resulting in real-time insights and decision-making across innumerable industry applications.

Environmental Problems Solved

ProHawk Vision addresses challenges viewing and acting on high and low-quality live videos due to environmental factors. Problems typically arise from two main sources: issues stemming from particulates of varying sizes that obstruct the view, and challenges related to lighting conditions, including both excess or insufficient light.



New features in ProHawk Vision SDK 6.0 include:

Live Video Requires Low Latency

For live video and computer vision applications, achieving industry-leading 3ms low latency is crucial. ProHawk Vision leverages NVIDIA GPUs to guarantee seamless video performance without any lag or frame skipping on camera or VMS systems. This capability enables ProHawk Vision to be seamlessly integrated into NVIDIA devices, including Jetson AGX Xavier, Jetson AGX Orin, Jetson Orin NX, and Jetson Orin Nano.

Expose Fine Details

ProHawk Vision algorithms uncover the intricate relationships between individual pixels and their surrounding counterparts, unlike conventional methods that treat the entire image as a single entity. This approach results in live video streams that are comprehensible and highly practical for human observation, VA, and AI applications.

Sensor Coverage

In humid climates, challenges arise from heavy rainfall and fog, which restrict sensor range and accuracy, compounded by issues like sun glare. ProHawk not only enhances the quality of color camera streams but also significantly boosts the coverage range and accuracy of thermal sensors by 300% and infrared cameras by 500%.

Automatic Filters

Through AI-enabled CV algorithms, ProHawk Vision automatically adapts to low-quality video inputs, swiftly identifying and addressing imperfections. With unparalleled efficiency, it restores clarity, sharpness, and detail to even the most degraded footage, ensuring optimal viewing experience or consumption by VA, AI or CV applications.

Eliminate Effects of Motion

ProHawk Vision Server features a patented motion adaptation algorithm designed to mitigate the negative impact of moving objects, such as raindrops or snowflakes. This algorithm effectively manages residual image artifacts caused by motion, eliminating bothersome ghosting and ringing effects in imagery.

Natural Color

An efficient and patented color adjustment algorithm restores natural color accuracy in challenging environments. This algorithm enhances full-color recognition in low-contrast conditions while preventing color oversaturation, to experience natural visibility in low-contrast fog, rain, and snow, as well as high-contrast lighting conditions.

Feature	Description	Benefit
Live Video/Low Latency	Industry Leading Low Latency, Compact High-Performance Algorithms Enables Embeddable Live Video Improvement	Dramatically Improve Live Video with No Video Lag, or Frame Skipping That Enables Decisive Decisions
Expose Fine Details	Patented Detail Enhancement Algorithm Reveals Intricate Details, Even in Good Quality Video	Accurately Identify Objects, Vehicles, License Plates, People, Animals, and Problems
Sensor Coverage	Eliminate Humid Climate Differentiation Struggles Between Body Heat and Ambient Surroundings	Increase Range and Accuracy of Thermal Sensors by 300% and Infrared Cameras by 500%
Broad Difficult Conditions	Programmatic Parameters Quickly Improves Imagery Cause by Fog, Rain, Snow, Dirt, Sand, Smoke, Backlight, Lowlight, Sun Glare, Headlight, and Tinted Windows	Neutralize and Improve Imagery Due to Light and Particulate Problems
Eliminate Effects of Motion	Patented Motion Adaptation Algorithm Controls Residual Image Effect Artifacts	Substantially Increases Recognition by Removing Annoying Ghosting or Ringing Imagery
Natural Color	Patented Color Algorithm Eliminates Oversaturation and Improves Color in High or Low Contrast Video	Restores Natural Color Representations
Edge Improvement	Edge Sharpening Algorithm Improve Outlines and Reduces Non-Uniform Imagery Noise	Imagery Fine Details Enable Unique Identification of People, Places, or Things

See More Do More!

- Integrate with any IP camera and VMS
- Reduce costs & time of exterior forensics analysis
- Enhance visual quality to identify problems
- Better accuracy of monitoring, analysis, or AI systems
- Extend life of existing cameras postponing replacement
- Dramatically improve effectiveness of facility security
- Visibility in any challenging environment
- Increase recognition for operators, analysis, or AI systems



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System Requirements

Windows 10 or 11



NVIDIA RTX A500, A1000, A2000, 4500, A5000, A6000, L4, L40, L40S, A10, A16, A40, Jetson AGX Orin, Jetson Orin NX, Jetson Orin Nano