Nitritty Labs Empowers Immobile Patients with NeuralCam, Powered by SolidRun's Hailo-15 SoM

Background

For patients who are fully immobile, even the simple act of calling for help can be impossible. Nitritty Labs, a pioneering startup based in the Czech Republic, has developed the NeuralCam - an innovative AI-powered camera that enables patients to request assistance simply by blinking their eyes. Built on SolidRun's Hailo-15 System on Module (SoM), powered by the Hailo-15H AI vision processor, NeuralCam redefines how technology supports care, providing reliability, speed and on-device intelligence where it matters most.

Until now, immobile patients relied on frequent manual check-ins by medical staff, a process that could lead to dangerous delays in emergencies. NeuralCam changes this by detecting intentional eye blinks and transforming them into instant nurse-call signals. This gives patients with paralysis, mobility limitations, or speech impairments the ability to ask for help independently, privately and safely. Hospitals, rehabilitation centers and assisted living facilities have already begun adopting NeuralCam, recognizing it not only as a tool that makes caregiving easier, but as a solution that can prevent life-threatening situations.

Applications

At the heart of NeuralCam lies SolidRun's Hailo-15 SoM, combined with the Hailo-15 AI processor and Sony IMX678 image sensor. This hardware enables real-time eye detection with ultra-low latency, high accuracy and consistent performance across all lighting conditions, from dim hospital rooms to brightly lit recovery areas. By choosing a compact and powerful SoM approach, Nitritty Labs accelerated their development process, reduced hardware complexity and achieved a faster time to market without compromising reliability, scalability or power efficiency.

Nitritty Labs shared: "We chose the SoM approach because we needed a solution that was compact, reliable and capable of delivering high-performance AI at the edge. SolidRun's Hailo-15 SoM provided exactly what we were looking for — powerful AI processing, excellent energy efficiency and seamless integration with our product design. We would like to sincerely thank the SolidRun team for their technical guidance and support during the R&D phase. Their responsiveness and expertise made a real difference and helped us bring NeuralCam to life faster and better than we imagined.

Real-Time AI Vision at the Edge with Hailo-15 SoM

Unlike traditional systems that send data to external servers, NeuralCam processes all video input directly on the SolidRun Hailo-15 SoM. This ensures that no images are transmitted, saved or shared externally, protecting patient privacy and complying with strict medical data protection regulations. The device connects easily to existing nurse-call systems, requires no special training and integrates smoothly into daily medical workflows."



SolidRun added: "We would like to extend our sincere gratitude to Nitritty Labs for selecting SolidRun as their SoM provider of the Hailo-15H System on Module. We are honored to be part of Nitritty Labs groundbreaking journey in revolutionizing healthcare technology. Nitritty's AI-powered camera is a remarkable innovation — a true leap forward in patient care and accessibility. By giving a voice to individuals who cannot speak or move, you are making a meaningful difference in healthcare systems around the world. At SolidRun, we are proud to support such visionary technology with our high-performance, energy-efficient edge AI modules. Collaborations like this remind us why we do what we do — enabling transformative solutions that serve humanity."

Summary

Nitritty Labs continues to focus on creating advanced electronics and intelligent software for healthcare and precision testing, with one clear mission: to make technology accessible and impactful. NeuralCam is more than a device — it is a promise that no patient will be left unseen or unheard. For caregivers, it brings efficiency and reassurance. For patients, it brings independence, safety, dignity, and all with the power of a single blink.