Healthcare :

| **Product code** | CZK-Healthcare |
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| **Hardware Platform** | Edge: Nvidia Jetson Series, Sophgo Micro Servers  Central: Nvidia H100, L40, RTX 4000 Series, RTX 5000 Series Ada, A16, A30, Sophon AI server |
| **Operating System** | Ubuntu, MS Windows |
| **Management Interface** | Web-Based Management Software |
| **Database** | PostgreSQL |
| **Development Approach** | Microservice, containerized |
| **Frontend** | React |
| **Backend** | Python |
| **3rd party Integration** | 3rd Party API Integration  Camera Support: RTSP, ONVIF |
| **Keywords** |  |

1. **Patient Fall Detection**
   * **Detects patients falling in hospital rooms, hallways, and elderly care facilities.**
   * **Sends real-time alerts to healthcare staff for immediate assistance.**
   * **Reduces injury risks, especially for elderly and critical-care patients.**
2. **Queue Management & Patient Flow Optimization**
   * **Monitors patient wait times in clinics and emergency rooms.**
   * **Helps optimize staff allocation based on real-time demand.**
   * **Reduces bottlenecks and improves patient experience.**
3. **PPE Compliance Monitoring**
   * **Ensures doctors, nurses, and staff wear required PPE (masks, gloves, gowns, etc.).**
   * **Alerts supervisors when PPE violations occur.**
   * **Prevents infections and enhances workplace safety.**
4. **Access Control & Facial Recognition**
   * **Secures restricted areas such as ICUs, pharmacies, and laboratories.**
   * **Allows only authorized personnel to access sensitive locations.**
   * **Prevents unauthorized access to medical supplies and patient records.**
5. **Intrusion Detection**
   * **Detects unauthorized individuals in restricted hospital areas.**
   * **Enhances security for operating rooms, ICUs, and storage rooms.**
   * **Prevents theft of medical equipment and pharmaceuticals.**
6. **Abnormal Behavior Detection**
   * **Identifies signs of distress or unusual behavior among patients.**
   * **Detects aggression or self-harm risks in psychiatric wards.**
   * **Sends alerts for timely intervention and assistance.**
7. **Fire and Smoke Detection**
   * **Identifies fire hazards in patient rooms, laboratories, and storage areas.**
   * **Sends automatic alerts to hospital security and emergency responders.**
   * **Helps prevent large-scale hospital disasters.**
8. **Infant Security & Maternity Ward Monitoring**
   * **Prevents unauthorized removals of newborns from maternity wards.**
   * **Monitors infant safety and movement in real time.**
   * **Enhances security for newborns in hospitals.**
9. **Hygiene Compliance & Hand Washing Monitoring**
   * **Ensures staff follows handwashing protocols in infection-prone areas.**
   * **Alerts hospital management when compliance drops below required standards.**
   * **Reduces risk of hospital-acquired infections (HAIs).**
10. **Emergency Room & ICU Occupancy Monitoring**

* **Tracks available ICU and ER beds in real time.**
* **Provides analytics for hospital capacity management.**
* **Ensures efficient patient allocation to available resources.**

### **Key Benefits:**

* **Enhanced Patient Safety – Reduces falls, self-harm, and unauthorized access.**
* **Improved Hospital Efficiency – Optimizes patient flow, bed availability, and staff allocation.**
* **Infection Control – Ensures PPE compliance and hygiene monitoring.**
* **Strengthened Security – Prevents theft, intrusion, and unauthorized access.**
* **Faster Emergency Response – Detects distress situations and medical emergencies in real time.**
* **Automated Compliance Monitoring – Helps hospitals maintain regulatory and safety standards.**