



iCareXR

Intelligent Nursing Assistant

Empowering Nurses with AI-driven Clinical
Guidance and Patient Monitoring



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THE PROBLEM

Bedside medication checks happen in seconds, often one-handed. Barcode scanners confirm a code matches; it doesn't confirm whether it's actually safe for this patient, like a dose that's in range but wrong given their allergies.



THE SOLUTION

iCareXR is an AI-powered nursing assistant that helps healthcare professionals deliver safer, more efficient care by combining intelligent clinical support with immersive simulation.

KEY FEATURES

- **Camera-based medication scanning:** reads drug name, concentration, rate, and expiry from a photo
- **Patient identity verification:** cross-checks wristband and name against the chart
- **Three-layer safety check:** catches allergy conflicts, order mismatches and rate errors before they reach the patient
- **Hands-free voice control:** start, approve, or escalate a check without touching the phone
- **Full audit trail:** every decision and reasoning step logged for QA and compliance



iCareXR
AI Clinical Companion



AI-Powered Safety

Scan medications and get instant AI-driven safety checks against patient records.

Log In



iCareXR



Welcome,
Nurse



Photo Analysis

AI-powered medication safety check



Live Analysis

Real-time camera monitoring



Patient Records

10 patients available



Photo Analysis

Reset

Images Details Results



GUARDRAILS AGENT
Analyzing...



Workflow

Step 1/6

Workflow Progress

17%



Vision Analysis

Scanning medication label



EHR Lookup

Verifying patient & records



Safety Check

Validating drug interactions



Clinical Answer

Generating response



Nurse Briefing

Delivering to HUD & TTS



Charge Nurse Review

Sign-off before bedside clearance



Agent Logs

2 entries



TECHNOLOGIES USED

- **Mobile:** Expo/React Native, Azure Speech STT, Keycloak (OIDC/PKCE)
- **Agentic Backend (LangGraph):** Orchestrator, Vision, Identity + EHR, Safety, Answer, Nurse Coach, Head Nurse Review
- **Data + Models:** Azure PostgreSQL, OpenAI GPT-4o, MCP Tool Layer, Epic EHR Integration (Planned)

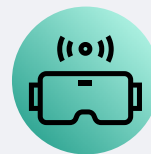
PROJECT IMPACT



Improves patient safety by reducing the risk of medication administration errors through hands-free access to patient records and verification workflows at the point of care.



Enhances healthcare worker efficiency by allowing nurses and practitioners to retrieve information and complete tasks without leaving the bedside or relying on separate workstations.



Demonstrates the potential of XR technology in healthcare by extending existing web-based systems into an immersive, mobile platform designed for real-world clinical environments.



Provides a foundation for future healthcare innovation by establishing an adaptable architecture that can support additional clinical workflows, integrations, and real-world deployment testing.

VIEW DEMO

