Some AI ideas (simple):

1. **AI-Based Early Warning System for Patient Deterioration**
   Predicts if a patient's vital signs are trending toward a critical event (e.g., cardiac arrest, sepsis), giving nurses more time to respond.

2. **Smart Medication Safety Checker**
   AI reviews medication orders and patient data to prevent **dose errors, allergies, or dangerous drug combinations**.

3. **AI-Based Fall Prevention Monitor with Movement Forecasting**
   Goes beyond current bed alarms — it predicts **when and where** a patient is most likely to fall based on movement history.

4. **Real-Time Nurse Fatigue Monitor Using AI + Wearables**
   Wearable sensors + AI detect signs of nurse fatigue to prevent accidents, sharp injuries, or medication mistakes.

5. **AI Incident Detection from Nursing Notes**
   Natural language AI scans daily nursing notes to flag **safety events** (e.g., near misses, unusual pain reports, IV complications) that nurses might not formally report.

6. **AI Fire and Equipment Hazard Detection in Hospital Rooms**
   Cameras + AI detect **sparks, smoke, liquid spills**, or overheated devices to protect patient and staff safety.

7. **AI Alerts for Missing Safety Checks (e.g., bed rails, restraints, alarms)**
   Tracks documentation and room sensors to ensure critical safety protocols have been completed.

8. **Data Privacy AI Agent for EHR Access Monitoring**
   Monitors who are accessing patient records, detects **unusual access behavior**, and prevents unauthorized data exposure.

9. **AI System for Detecting Unsafe Nurse Workload Levels**
   Analyzes nurse workload, patient acuity, and time spent per task — alerts supervisors when nurses are **overloaded and safety is at risk**.

10. **AI-Based "Wrong Patient" Procedure Detection**
    Verifies patient identity using face recognition or wristband scan before **medication, blood transfusion, or surgery**.

11. **Pressure Ulcer Risk Prediction with Real-Time Alerts**
    AI identifies who is at risk of developing pressure injuries **based on position history, nutrition, mobility**, and alerts nurses early.

12. **Medication Side Effect Monitor Using AI Voice Analysis**
    AI listens to patient speech patterns for early signs of **nausea, confusion, or dizziness**,

indicating adverse reactions.

13. **AI Predicts Risk of Post-Surgical Infection**
    Combines wound images, patient data, and vitals to **detect early infection signs before they become visible to humans.**

14. **AI Auto-Check for Missing Safety Documentation**
    Detects if **vital safety fields** (e.g., allergy alerts, fall risk, DNR status) are missing in EHR and alerts the nurse to complete it.

For advanced ideas:

1. **Patient Behavior Drift Detection Using LLM-based Embeddings**
   Use large language model (LLM) embeddings to monitor shifts in chronic patient behavior patterns and detect early warning signs of health deterioration.

2. **Tiny LLM Agents for Real-Time ICU Monitoring**
   Deploy lightweight local LLMs in ICU settings for real-time analysis of patient vitals, automatically flagging anomalies or predicting adverse events.

3. **Blockchain-Powered Prescription Audit with Multi-Agent LLM Validation**
   Combine blockchain for audit trails and LLM agents to semantically validate prescription content for fraud and misuse detection.

4. **Smart Consent System Using Explainable LLMs in Clinical Trials**
   Build an LLM-based system to automatically generate and explain informed consent in layman's terms for clinical trial participants.

5. **Self-Healing Medical IoT Networks with LLM Coordination Agents**
   Integrate LLMs into medical device networks to dynamically detect faults, auto-repair configurations, and reroute data flows.

6. **AI-Powered Medical Ethics Auditor for Hospital Decision Logs**
   Use NLP and LLMs to assess ethical compliance in historical medical decision logs, detecting possible biases or unethical behavior.

7. **Digital Twin for Mental Health: LLM-Augmented Patient Profiling**
   Build a digital twin system for psychiatric patients using LLMs to simulate behavior, support treatment planning, and prevent relapse.

Etc, IoT/edge security, Blockchain smart contract security, data quality in Blockchain.