Emergency Department Triage

AI-Powered Patient Prioritization System

23 min average wait time reduction

92% priority accuracy

ESI level prediction

Real-time risk assessment

Detailed Feature Overview

23 Minute Average Wait Time Reduction

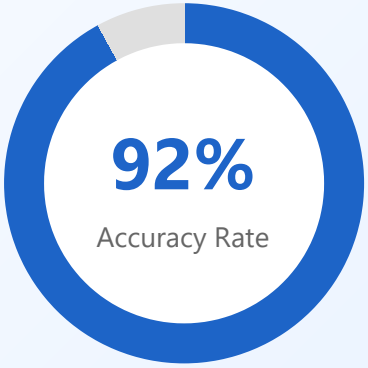
Our AI-driven triage system significantly reduces patient wait times by optimizing the initial assessment process and resource allocation.

How It Works:

- **Rapid Assessment:** AI analyzes patient symptoms, vital signs, and medical history within seconds
- **Smart Queue Management:** Automatically prioritizes patients based on urgency and available resources
- **Resource Optimization:** Predicts required staff and equipment, reducing bottlenecks
- **Continuous Monitoring:** Dynamically adjusts priorities as patient conditions evolve

> **Impact:** Faster treatment initiation leads to improved patient outcomes and satisfaction, while reducing ED overcrowding and staff workload.

92% Priority Accuracy



Validated against expert triage decisions

The system achieves exceptional accuracy in determining patient priority levels, matching or exceeding experienced triage nurses' decisions.

Key Advantages:

- **Machine Learning Model:** Trained on millions of ED visits and outcomes
- **Multi-Factor Analysis:** Considers vital signs, symptoms, age, comorbidities, and presentation patterns
- **Consistency:** Eliminates human factors like fatigue and subjective bias
- **Continuous Improvement:** Model updates regularly with new data and outcomes

> **Clinical Benefit:** Accurate prioritization ensures critical patients receive immediate attention while preventing unnecessary resource allocation for lower-acuity cases.

ESI Level Prediction

1. **Resuscitative** - Immediate life-saving intervention
2. **Emergent** - High risk, severe pain/distress
3. **Urgent** - Stable but needs multiple resources
4. **Less Urgent** - Single resource needed
5. **Non-Urgent** - No resources required

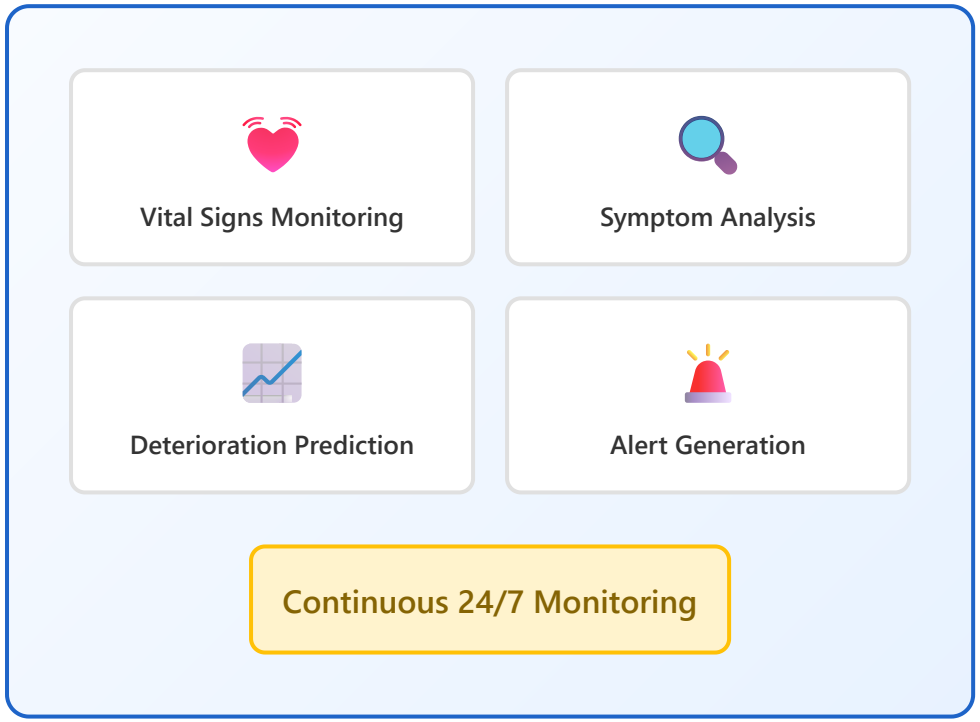
The Emergency Severity Index (ESI) is a five-level triage algorithm providing clinically relevant stratification of patients based on acuity and resource needs.

AI-Enhanced ESI Assignment:

- **Automated Classification:** Instantly determines appropriate ESI level upon patient arrival
- **Resource Prediction:** Estimates required diagnostic tests, procedures, and specialist consultations
- **Acuity Assessment:** Evaluates life-threatening conditions, vital sign abnormalities, and pain levels
- **Decision Support:** Provides evidence-based recommendations to triage staff

> **Standardization:** Ensures consistent triage decisions across all shifts and staff members, reducing variability and improving patient flow throughout the ED.

Real-time Risk Assessment



Advanced algorithms continuously monitor patient status and identify potential deterioration before it becomes clinically apparent.

Real-time Capabilities:

- **Dynamic Monitoring:** Tracks changes in vital signs, pain levels, and symptoms while patients wait
- **Early Warning System:** Detects subtle patterns indicating clinical deterioration
- **Predictive Analytics:** Forecasts likelihood of adverse events (sepsis, cardiac events, respiratory failure)
- **Automated Alerts:** Notifies clinical staff immediately when intervention is required
- **Priority Re-evaluation:** Automatically escalates patients whose condition worsens

> **Patient Safety:** Proactive risk identification prevents adverse outcomes and ensures timely intervention for deteriorating patients, even in busy ED environments.