

# **A Novel Smart Ambulance System**

**Siten Jain, Siddhant Shinde, Shrikant Deshmukh, Prof.Minal Jungare**

Indira College of Engineering and Management, Pune, India

siten.jain@indiraicem.ac.in, siddhant.shinde@indiraicem.ac.in

shrikant.deshmukh@indiraicem.ac.in, minal.jungare@indiraicem.ac.in

**Abstract:** *The smart ambulance system utilizes modern communication, processing, and sensing technologies to revolutionize emergency response services. It focuses on minimizing ambulance arrival time, patient transport duration, and hospital wait times by making intelligent decisions on ambulance dispatch, hospital selection, and route optimization [1]. These decisions are based on real-time road traffic conditions and hospital load data, ensuring faster response times and improved patient outcomes [2]. The system undergoes both analytical and simulation-based performance analysis to validate its accuracy, efficiency, and reliability [3]. The results demonstrate a strong agreement between simulation and analytical findings, confirming the effectiveness of the proposed approach [4]. Furthermore, a comparative study with existing methods highlights the superiority of this smart system in reducing drop-off delays and enhancing hospital coordination, ultimately improving overall healthcare service efficiency [5].*

**Keywords:** Smart ambulance, emergency services, response time, real-time data, route optimization, door-to-needle time, performance analysis, traffic conditions, algorithm validation

