

Creating A Scalable Smart Healthcare System Through The Utilization Of Edge/Fog Computing

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Abstract—In the era of digital transformation, healthcare systems are evolving towards smart infrastructures to provide personalized, efficient, and timely services. However, the scalability and real-time processing demands of such systems pose significant challenges. This paper proposes the integration of edge and fog computing paradigms to address these challenges and create a scalable smart healthcare ecosystem. By leveraging edge devices and fog nodes situated closer to the point of data generation, computational tasks can be offloaded from centralized servers, reducing latency and bandwidth requirements. This distributed architecture enables real-time data analysis, facilitates timely decision-making, and enhances the scalability of healthcare services. Through a comprehensive review of existing literature and case studies, we elucidate the benefits and challenges of adopting edge/fog computing in healthcare settings. This analysis underscores the potential of this approach to revolutionize healthcare delivery, improve patient outcomes, and drive innovation in the field.

Keyword—Smart Healthcare, Edge Computing, Fog Computing, Distributed Systems, Scheduling Algorithms

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