IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 1, March 2023

An Organised Literature Review of Queueing Modeling in Different Sectors

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Abstract: *Queue scheduling involves determining the sequence in which tasks or entities in a queue are processed or served. It requires making decisions about resource allocation and task sequencing to enhance system efficiency and performance. Queue scheduling is widely used in operating systems, computer networks, telecommunications, and service-oriented industries. The primary objectives of queue scheduling are to minimize waiting time, maximize throughput, and ensure equitable distribution of resources. To achieve these goals, different scheduling algorithms and policies are employed based on specific system requirements and constraints. Although previous studies on queue management systems have been inadequate in providing satisfactory solutions, recent research has incorporated advanced technologies such as machine learning techniques and diverse queuing models. In this paper research conducted from 2015 to 2022, various strategies for optimizing queues were identified by examining research perspectives on queue management systems. The findings indicate that machine learning approaches have been extensively used, employing tools like ARENA and SIMIO, and adapting different queuing algorithms to address this issue.*

Keywords: Queuing models, capacity management, arrival process, queue length, performance measures, waiting time..

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