Finding the shortest path in a graph means selecting the path between source and destination which gives the minimum path length. This problem of finding the shortest path can be solved using Dijkstra algorithm. The time complexity of Dijkstra algorithm is high. Looking at the shortcoming of traditional Dijkstra algorithm, this paper has proposed a new method to improve the time complexity of this algorithm using queue and hashing techniques. The time complexity of the improved algorithm is $O(n \log n)$.

References

- Y. Cao, "The Shortest path algorithm in data structures", Yibin University, vol. 6, 2007, pp. 82-84.
- Fuhao ZHANG, Ageng QIU, Qingyuan LI, "Improve on dijkstra shortest path algorithm for huge data", ISPRS, 2009.

**Index Terms**

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Shortest path Dijkstra algorithm Queue Hashing Stack.