Abstract

Frequent pattern mining has been an emerging and active field in data mining research for over a decade. Abundant literature has been emerged from this research and tremendous
progress has been made in numerous research frontiers. This article, provide an application of
the modified Apriori algorithm in coordinate sets of trajectories to find the frequent trajectory
coordinates. In this algorithm additional steps are added to prune the coordinate sets generated
so that to reduce the unnecessary search time and space. This sequential pattern mining
method is quite simple in nature but complex to implement. This paper explains the basics of
data origination, database structure to hold the coordinate datasets and the implementation of
the algorithm with the object oriented programming language by an illustration. It can be applied
to interesting game domains to find the frequent trajectory of an object shot by a player which
follows a trajectory path.

Reference

- Arthur.A.Shaw, Mining Frequent Curve Patterns using Apriori Algorithm. In: Proceedings
  of the International Conference on Innovative Research In Engineering And Technology,
  ICIRET 2010, Coimbatore, India.
- Jiawei Han, Hong Cheng,Dong Xin, Xifeng Yan (2007) Frequent pattern mining: current
  on management of data (SIGMOD’93), Washington, DC, pp 207–216.
- United States Patent Application Publication – Trajectory Detection And Feedback
- J. Han, J. Pei, B. Mortazavi-Asl, Q. Chen, U. Dayal, M.C. Hsu, Mining frequent patterns
  without candidate generation, in: Proceedings of the ACM SIGMOD International Conference on
  Management of Data, 2000, pp. 1–12.
- T. Hu, S.Y. Sung, H. Xiong, Q. Fu, Discovery of maximum length frequent itemsets,
- J.X. Yu, Z. Chong, H. Lu, Z. Zhang, A. Zhou, A false negative approach to mining
  frequent itemsets from high speed transactional data streams, Information Sciences 176 (14)
- M.J. Zaki, SPADE: an efficient algorithm for mining frequent sequences, Machine
- J, Ayres, J.E. Gehrke, T. Yiu, J. Flannick, Sequential pattern mining using a bitmap
  representation, in: Proceedings of the ACM SIGKDD International Conference on Knowledge
- J. Han, J. Pei, B. Mortazavi-Asl, Q. Chen, U. Dayal and M.C. Hsu. FreeSpan: frequent
  pattern-projected sequential pattern mining, in: Proceedings of the ACM SIGKDD International
  Conference on Knowledge Discovery and Data Mining, 2000, pp. 355–359.
- J. Pei, J. Han, B. Mortazavi-Asl, Q. Chen, U. Dayal and M.C. Hsu. PrefixSpan: mining
- X. Yan, J. Han, gSpan: graph-based substructure pattern mining, in: Proceedings of International Conference on Data Mining, 2002, pp. 721–724.
- M. Garofalakis, R. Rastogi, K. Shim, Mining sequential patterns with regular expression constraints, IEEE Transactions on Knowledge and Data Engineering 14(3) (2002) 530–552.

Index Terms

Computer Science       Knowledge Discovery

Key words
Data mining            Association mining            Frequent pattern mining
trajectory pattern mining