



WIKIPEDIA
The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia
Wikipedia store

Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact page

Tools
What links here
Related changes
Upload file
Special pages
Permanent link
Page information
Wikidata item
Cite this page

Print/export
Create a book
Download as PDF
Printable version

Languages 
Српски / srpski  Edit links

Create account Log in

Article [Talk](#)

[Read](#) [Edit](#) [More](#) ▾

BK-tree

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A **BK-tree** is a [metric tree](#) suggested by Walter Austin Burkhard and Robert M. Keller^[1] specifically adapted to discrete [metric spaces](#). For simplicity, let us consider **integer** discrete metric $d(x, y)$. Then, BK-tree is defined in the following way. An arbitrary element a is selected as root node. The root node may have zero or more subtrees. The k -th subtree is recursively built of all elements b such that $d(a, b) = k$. BK-trees can be used for [approximate string matching](#) in a dictionary ^[2].

See also [\[edit\]](#)

- [Levenshtein distance](#) – the distance metric commonly used when building a BK-tree
- [Damerau–Levenshtein distance](#) – a modified form of Levenshtein distance that allows transpositions

References [\[edit\]](#)

- ↑ W. Burkhard and R. Keller. Some approaches to best-match file searching, CACM, 1973 [↗](#)
- ↑ R. Baeza-Yates, W. Cunto, U. Manber, and S. Wu. Proximity matching using fixed queries trees. In M. Crochemore and D. Gusfield, editors, 5th Combinatorial Pattern Matching, LNCS 807, pages 198–212, Asilomar, CA, June 1994.
- ↑ Ricardo Baeza-Yates and Gonzalo Navarro. Fast Approximate String Matching in a Dictionary. Proc. SPIRE'98 [↗](#)

External links [\[edit\]](#)

- A BK-tree implementation in [Common Lisp](#) [↗](#) with test results and performance graphs.
- An explanation of BK-Trees and their relationship to metric spaces [\[3\]](#) [↗](#)
- An explanation of BK-Trees with an implementation in C#[\[4\]](#) [↗](#)
- A BK-tree implementation in [Lua](#) [\[5\]](#) [↗](#)

v · t · e	Tree data structures	[hide]
Search trees (dynamic sets/associative arrays)	2–3 · 2–3–4 · AA · (a,b) · AVL · B · B+ · B* · B ^x · (Optimal) Binary search · Dancing · HTree · Interval · Order statistic · (Left-leaning) Red-black · Scapegoat · Splay · T · Treap · UB · Weight-balanced	
Heaps	Binary · Binomial · Fibonacci · Leftist · Pairing · Skew · Van Emde Boas	
Tries	Hash · Radix · Suffix · Ternary search · X-fast · Y-fast	
Spatial data partitioning trees	BK · BSP · Cartesian · Hilbert R · k-d (implicit k-d) · M · Metric · MVP · Octree · Priority R · Quad · R · R+ · R* · Segment · VP · X	
Other trees	Cover · Exponential · Fenwick · Finger · Fusion · Hash calendar · iDistance · K-ary · Left-child right-sibling · Link/cut · Log-structured merge · Mørkle · PQ · Range · SPQR · Top	



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