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]

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