

Bioinformatics*Properties of Universal and Existential Predicates on PBushes*

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ABSTRACT We introduce some basic ideas of data mining, define Peano Bush (PBush) structures and state basic properties of universal and existential predicates on them. The paper presents some applications of theoretical results related to data mining, bioinformatics and biocomplexity. We propose some pruning techniques for AND operations on bit-vectors to improve the efficiency of the root count algorithm. We summarize them as examples to illustrate the relevance of the theoretical results to the real-world problems. A k-nearest neighbor classification is discussed as a possible application. Finally, a general point of view is presented. We consider universal and existential predicates as \ Boolean Rollup Operators\ in the OLAP sense.