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**PIGA: PARTITIONED INVERTED INDEX USING
GENETIC ALGORITHM**

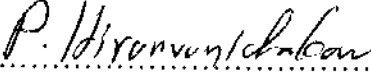
Suteera Vongansup


**A Thesis Submitted in Partial
Fulfillment of the Requirements for the Degree of
Master of Science (Computer Science)
School of Applied Statistics
National Institute of Development Administration
2007**


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GENETIC ALGORITHM**
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The Examining Committee Approved This Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science (Computer Science).

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ABSTRACT

Title of Thesis	PIGA: Partitioned Inverted Index Using Genetic Algorithm
Author	Suteera Vonganansup
Degree	Master of Science (Computer Science)
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The dramatic increase in the amount of content available in digital forms gives rise to large-scale digital libraries, targeted to support millions of users and terabytes of data. Retrieving information from a system of this scale in an efficient manner is a challenging task due to the size of the collection as well as the index. In this paper, we propose Partitioned Inverted Index using Genetic Algorithm (PIGA) that determines a near-optimal partitioning of an inverted index across nodes in a system to support searching of information in a large-scale digital library, implemented atop a network of workstations. Simulation experiments on a terabytes of text show that this organization outperforms previously proposed techniques over a wide range of conditions.

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