SAPTHAGIRI COLLEGE OF ENGINEERING

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Department of Computer Science and Engineering

Certificate

Certified that the Project Work entitled **"QUERY PROCESSING WITH ENERGY-EFFICIENCY IN WEB SEARCH ENGINES"** carried out by **AKSHATA T BHAT(1SG14CS009), ISHWARYA H B (1SG14CS035), JAGRUTI S (1SG14CS036), LAKSHMI R (1SG15CS406)**, bonafide students of **Sapthagiri College of Engineering**, in partial fulfillment for the award of **Bachelor of Engineering** in **Computer Science and Engineering** of **Visvesvaraya Technological University, Belagavi** during the academic year 2017-2018. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The project report has been approved as it satisfies the academic requirements in respect of **Project Work (10CS85)** prescribed for the said degree.

Nanda 12/06/18	12/06/18	
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ABSTRACT

Query Processing With Energy-Efficiency in Web Search Engines

Web search engines consist of thousands of query processing nodes, they are servers which are used to process user queries. These servers consume a significant amount of energy, which is a burden to the CPU. Since users expect quick responses, low latencies need to be ensured. To overcome this, the Predictive Energy Saving Online Scheduling Algorithm (PESOS) is proposed which selects a suitable CPU frequency to process a query on a per-core basis as users can hardly notice response times that are faster than their expectations. PESOS uses query efficiency predictors for estimating in advance the processing volume and processing time of a query. PESOS tries to process the given query by its particular deadline and uses high level scheduling information to reduce the CPU energy consumption of a query processing node.