

CRITICAL SCRUTINY OF MEMORY ALLOCATION ALGORITHMS: FIRST FIT, BEST FIT AND WORST FIT

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ABSTRACT

Memory allocation is the process of assigning a portion of memory to a process for execution. Partitioning makes easier to organise memory requirement of different processes. It is accomplished through a procedure called memory management. Memory requirement of process may be either contiguous allocation or non-contiguous allocation. If process requirement is contiguous, then consecutive blocks of memory have to be allocated to the process. If the requirement is non-contiguous, then process may be allocated the blocks of memory scattered all around the memory space. The efficiency of memory management depends on the utilization of memory by the process. If the process is allotted exactly the amount of memory requested by it, then it results in the maximum utilization. On the other hand, if the process is allotted more memory than requested, then excess memory is wasted as it cannot be used by another process. Such wastage of memory is referred to as internal fragmentation that has to be minimized. If the process does not get its required contiguous memory due to total available free memory is in non-contiguous form, then, it is referred to as external fragmentation. This incident should also be avoided. All these aspects should be considered while computing the memory utilization. In this paper, we will discuss about some of the popular memory allocation algorithms that are, first fit, best fit and worst fit for fixed sized and variable sized partition of contiguous nature, their performance will be analysed along with internal and external fragmentation and the whole procedure of an algorithm will be illustrated with proper diagrams. The main objective of this paper is to determine the most efficient algorithm in contiguous memory allocation that as minimum fragmentation.

KEYWORDS: best fit, first fit, fixed sized partition, variable size partition, worst fit.

INTRODUCTION

Memory of a computer system can be considered as a storehouse of data and information to be needed by various applications at any time. Memory can be divided into two types: primary or main memory and secondary memory. Primary memory is used to store the operating system and user defined processes for execution. Secondary memory is used to store the data and information that are not needed immediately.

PREDICTING CERVICAL CANCER USING MULTIPLE MACHINE LEARNING TECHNIQUES

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ABSTRACT

Now a day, cervical cancer is the most common and prevailing gynecologic malignancies. Cervical cancer is the third type of cancer after breast and lungs cancer in women. Although its highly preventable disease provided early screening is done so as to minimize the global burden. However, due to unawareness, ignorance, lack of medical facilities and expensive procedures in developing countries, the vulnerable patient populations cannot afford to undergo examination regularly. A novel ensemble approach is presented in this paper to predict the risk of cervical cancer using machine learning approach. In this paper, we proposed a prediction model that can predict with accuracy the presence or absence of cervical cancer from as many as 35 possible risk features recorded for each woman. As per the results, the proposed approach is accurate, scalable and practical

Keywords: Cervical cancer, Diagnosis, prediction, imbalance.

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1. INTRODUCTION

Cancer is a generic term for a large group of diseases that can affect any part of the body and at times could take the life of patients. Cancer can be reduced if cases are timely detected and treated as early as possible [1]. Cervical cancer is a common type of cancer prevailing in women these days. Women especially in developing countries, there are so restricted resources. Additionally, sometimes patients do not take care to routine screening. Therefore, the most important problems during diagnosis are determination of the finest screening plan and estimation of individual risks of each patient. In most of these screening methods results have been highly correlated with the experience of the physician and its subjective decision [2]