

CHAPTER 1

INTRODUCTION

1.1 Background

There are many sports in the world today, one of which is basketball. Basketball is one of the most popular sports in the world today as well as in Indonesia there are many basketball competitions ranging from amateur leagues to professional leagues. In basketball, of course, a proportional height is needed in order to compete in matches because of course it is not balanced if short players must face tall players. In basketball, there are 5 classifications of player positions, namely point guard, shooting guard, small forward, power forward center and because basketball is a sport that requires a proportional height, the placement of players must also be important.

From the problems above, that the placement of players' positions based on height is very important in basketball because of course, it will affect the performance of basketball athletes. This study using the concept of clustering and using the DBSCAN algorithm to place the athletes in an optimal position based on the athletes' height.

In this study, the DBSCAN algorithm was used by clustering player positions based on the athletes' height and performance. The total column used is 4 columns, namely the height column and the performance column, which has 3 different columns, namely the points column, rebounds, assists. then the results obtained are to place the athletes in the right position between the 3 main positions in basketball, namely guard, forward, or center.

1.2 Problem Formulation

In relation to the background of the problem above, the problems that can be identified are:

1. Can this clustering put players in their best position?
2. Can the DBSCAN algorithm work well for this study?

1.3 Scope

The following is a limitation of the problem in the Analysis of Basketball Athletes' Positions Based on Height Using the DBSCAN Algorithm:

1. The performance columns used are only points, rebounds, and assists.
2. The dataset used is only NBA league data from the 1996 season and the 2021 season, the data used is not complete until the season ends.

1.4 Objective

The purpose of this project is to advise basketball athletes to play in the most effective position. In basketball, there are 5 main positions, namely point guard, shooting guard, small forward, power forward, and center. This project will compare the height and performance of the athletes to find out the best position that should be occupied.

