CHAPTER 7

CONCLUSION AND SUGGESTIONS FOR FUTURE WORK

7.1 INTRODUCTION

This chapter concludes the study by providing reflection on the results of previous chapters and outlining the potential for future work. Section 7.2 summarizes how the aim and objectives that were stated in chapter 1 were realized and considers to see the most the findings that are created with reference to the research objectives. And also analysis and limitations of the study are given in Section 7.3. The prospective of scope for future research are detailed in section 7.4.

7.2 SUMMARY OF THE RESEARCH FINDINGS

As acknowledged in chapter 1, the primary aim of the study has been to investigate the potential of crime classification, spatial clustering for identifying crime hotspots and cold spots and forecasting crimes based on spatial clustering simulations. And also established that in order to realize this research aim, a number of research objectives are desired to be accomplished.

Chapter 2 fulfills the requirements of related techniques used for crime classification and the spatial clustering algorithms used for hotspot identifications. This chapter introduces existing classification algorithms, spatial clustering algorithms and the simulation methods relate to this research
are described and reviewed the advantages and disadvantages of selected classification algorithms are summarized. There have been a number of algorithms and simulations used up-to-date. However, they have not been applied to the study of crime forecasting. The chapter then reviews and compares the two main methods used to classify crime and identify the crime hotspots: tree induction method and subspace clustering.

The main objective has been to review the geographical locations of crime, crime classification, subspace clustering and forecasting simulations, this has been accomplished in chapter3. Crime classification and spatial crime clustering could be a key component for finding out the geographic locations of crime and also the discussions focus with respect to demographic characteristics. Chapter3 additionally reviews different types of hot spotting techniques utilized in the spatial temporal data mining and what are the different techniques used to perform the crime classifications and spatial clustering. Finally, chapter3 reviews geographic arithmetic simulations for crime forecasting and the way to incorporate the spatial and temporal crime attributes.

Chapter 4 focuses on the objectives of chapter2 and chapter3 to explore the geographic location of crime in Chennai city and to study the relationship between crime and its related determinants in Chennai city context. The geographical variations at the police boundary areas have been presented. Different types of crimes occur in various regions. However, it is clear that most of the crimes clustered in certain regions. This chapter describes the methodology of structured classification algorithm and the implementation of the algorithm. The result shows a different type of class based crime hotspots, based on particular parameter choice.
Chapter 5 addresses objective five viz., to use the knowledge that has been gained in chapters 1 to 4 to implement a CLIQUE Optimization algorithm in the Chennai city crime record which was collected from the Chennai city police department. This chapter presents the CLIQUE Optimization algorithm for clustering crime incidents in Chennai city areas. The basic spatial, time and crime type data’s are added to the implementation. This chapter demonstrates how the crime is classified into the class based crime hotspots and how to optimize the crime hotspots in the Chennai city map.

Chapter 6 addresses the sixth objective, viz., to use the data that have been gained in chapter 5 classified data. In this chapter, three types of simulations are used in crime forecasting. It is divided into day-to-day forecast (Micro Level Simulation), monthly forecast (Me-so Level Simulation) and year-wise crime forecast (Macro Level Simulation). Simulation collects the burglary data and perform the implementation. The output of the short time forecasting shows the police department used the day-to-day forecasting for allotting the police patrol for city areas based on present day hotspot compared to last day hotspot. The output of medium term forecasting analysis shows the police departments for allotting the police forces for particular place based on previous month hotspot are compared to current month hotspot. The output of long term forecasting shows the police department to design the area boundaries and police force levels by controlling the crimes.

7.3 AN EVALUATION OF THE METHODOLOGY

Police ought to utilize the structured classification primarily by understanding the motivation of various kinds of crime hotspots as to why the
area identified by these hotspots are engaged by criminals. This section gives background information regarding the region. If the region is understood and identified in terms of crime incidents, association of homes and outlets important business places it is possible to detect opportunities for crime occurrence within the specific regions. The alternative is to require safety measures against crime. Conditional crime prevention is useful and valuable if the type of class of hotspot of crime is detected.

The methodology of this study is utilized by police departments to be a lot more helpful concerning the expectations of crime events. Crime is such a problem that is movable and difficult to follow. However makes crime patterns within the space concerning occasions.

Increasing such studies initially needs highly structured collected data. Spatial clustering simulation analysis can give enhanced results if data around consisted more than one year. More data stand for enhanced fitting of the clustering simulation analysis, more density of clusters and consequently more knowledge. Spatial clustering simulation becomes useful in detecting valid crime patterns, forecast the crime incidents, police should take suitable prevention measures and allocate recourses suitably.

7.4 SUGGESTIONS FOR FUTURE WORK

There are several research directions, to which this study could be extended. The most obvious avenue for future research is to make the spatial clustering simulation accessible to the police department or policy makers. This thesis shows that the spatial clustering simulation has potential as a forecasting tool and making it available to police department might encourage a greater degree of planning with consideration to the effects of new schemes.
on crime rates. Predicting crime rates are otherwise an extremely difficult task.

This study, has outlined generalization based techniques used single KDE map throughout generalizations. A spread of applications demands spatial data mining to be created and contacted along with using KDE maps. This is able to involve not only spatial clustering but also conjointly spatial clustering simulations like map place on high, spatial joins, etc. As an example, to extract general weather patterns, it is going to be higher using temperature and rainfall KDE maps and to carry out generalization in each.