

Chapter 7

Advanced Crime Prediction and Analysis Using Machine Learning and Quantum Networking

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ABSTRACT

Researchers have recently focused a great deal of attention on the utilization of deep learning and machine learning methods to the prediction of crimes, with a focus on identifying trends and patterns in the incidence of crimes. This review investigates more than 150 publications to examine the numerous machine learning techniques that forecast crime. Availability of the utilized datasets by academics for predicting crimes is made possible by this study, which also examines popular methods for forecasting criminal activity using deep gaining knowledge of and machine learning algorithms. These methods provide insights into many patterns and variables associated with criminal activity. Lastly, scholars in this subject will find great use for the thorough summary of studies on deep learning and machine learning approaches to forecasting crime provided in this publication. Law enforcement organizations can create more effective plans to deter and address criminal activity by developing a greater understanding of crime prediction techniques.

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I. INTRODUCTION

The task of Predicting crime is intricate and demands sophisticated analytical instruments to bridge the gaps in current detection methods. Researchers now have a special chance to examine and investigate the detection of crime utilizing deep learning and machine learning approaches thanks to the growing the accessibility of crime statistics and the progress of modern technology. This piece will examine current developments in describe how these state-of-the-art tools are being used to identify criminal activity, predict patterns of crime, and stop crime. Using machine learning along with deep learning to forecast offenses.

It is in light of the recent advancements in this domain, and.our main objective is to support upcoming research projects and offer a thorough summary of recent developments in this subject. A branch artificial intelligence that is referred to as “machine learning” utilizes algorithms and numerical models to evaluate and forecast data. Conversely, Advanced deep learning methodologies are a branch of machine learning that replicate complex relationships between inputs and results by modelling numerous layers of artificial neural networks Quantum Networking based etc. Deep learning and machine learning techniques possess many possible applications towards addressing issue of anticipating crimes.

Figure 1. Research paper selection methodology



Machine learning is utilized to forecast future crimes by analysing crime statistics trends, algorithms have been applied to crime prediction. Therefore, the following are the main contributions of this work: first, it summarizes previous research on neighbourhood crime detection that used cutting edge Deep learning and machine learning techniques. thus, adding to the body of knowledge about fathomable literature. Secondly, this document removes the constraint of the limited availability of possible datasets. We have made public mention to a few. accessible neighbourhood crime prediction datasets that have been used in previous research. preserving the data resources for use by researchers in the future. Lastly, In order to close the current research gaps regarding neighbourhood crimes, this work outlined potential future

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