

A
Major Project Report
On
**SOCIAL NETWORK BASED PRIVACY-PRESERVING CRIMINAL
SUSPECTS SENSING**

Submitted to
Jawaharlal Nehru Technological University, Hyderabad
in partial fulfillment of the requirements for the award of Degree of
Bachelor of Technology
in
Computer Science & Engineering
by

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2022-2023

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

This is to certify that the project entitled "SOCIAL NETWORK BASED PRIVACY-PRESERVING CRIMINAL SUSPECT SENSING" is submitted by **G.Shrenitha(196Y1A0533), B.Sahithi(196Y1A0512), G.Meghana(196Y1A0540), E.Sai Deepthi(196Y1A0532)** in the partial fulfillment of requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering during academic year 2022-23.


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ABSTRACT

With development of online social networks, many criminal suspects use social network to communicate with each other. In order to obtain valuable criminal clues, considerable research works have been done to analyze criminal suspects' social data. However, most of them did not pay much attention on privacy-preserving problems, which may leak some sensitive data in the analysis process. To solve this problem, we propose a novel analysis approach of criminal suspects by exploiting social data and crime data that are collected by social network and police information systems. We enable the social cloud server and public security cloud server to exchange social information of criminal suspects and user's public information in a privacy preserving way. Specifically, we propose a privacy-preserving data retrieving method based on oblivious transfer to guarantee that only the authorized entities can perform queries on suspects' social data, while the social cloud server cannot infer anything during the query. Moreover, several building blocks, such as encrypted data comparing, secure classification and regression tree (CART) model are also proposed. Based on these building blocks, we designed a privacy-preserving criminal suspects sensing scheme. Finally, we demonstrate a performance evaluation which shows that our scheme can enhance analysis of criminal suspects without privacy leakage, while with low overhead.



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