

A
Major Project Report
On

**MINING FRAUDSTERS AND FRAUDULENT STRATEGIES IN LARGE SCALE
MOBILE SOCIAL NETWORKS**

submitted to

Jawaharlal Nehru Technological University, Hyderabad
in partial fulfillment of requirement for the award of degree of

Bachelor of Technology

in

COMPUTER SCIENCE & ENGINEERING

by

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

This is to certify that the Major-project entitled “**MINING FRAUDSTERS AND FRAUDULENT STRATEGIES IN LARGE SCALE MOBILE SOCIAL NETWORKS**” is submitted by *N. Shanmukha Priya (196Y1A0570)*, *Sumayya Yasmeen (196Y1A0594)*, *V. Sindhu (196Y1A05B0)* 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

The rapid development of modern communication technologies—in particular, (mobile) phone communications—has largely facilitated human social interactions and information exchange. However, the emergence of telemarketing frauds can significantly dissipate individual fortune and social wealth, resulting in potential slow down or damage to economics. In this work, we propose to spot telemarketing frauds, with an emphasis on unveiling the “precise fraud” phenomenon and the strategies that are used by fraudsters to precisely select targets. To study this problem, we employ a one-month complete dataset of telecommunication metadata in Shanghai with 54 million users and 698 million call logs. Through our study, we find that user’s information might has been seriously leaked, and fraudsters have preference over the target user’s age and activity in mobile network. We further propose a novel semi-supervised learning framework to distinguish fraudsters from non-fraudsters. Experimental results on a real-world data show that our approach outperforms several state-of-the-art algorithms in accuracy of detecting fraudsters (e.g., +0.278 in terms of F1 on average). We believe that our study can potentially inform policymaking for government and mobile service providers.



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