CHENNAI INSTITUTE OF TECHNOLOGY
(Autonomous)

"SOFTWARE SOLUTIONS TO IDENTIFY THE END RECEIVER OF CRYPTOCURRENCY TRANSACTIONS"

A CORE COURSE PROJECT REPORT

Submitted By

CHORKO C **REG NO. 23CS067**

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
(Autonomous)
Sarathy Nagar, Kundrathur, Chennai-600069

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Vision of the Institute:

To be an eminent centre for Academia, Industry and Research by imparting knowledge, relevant practices and inculcating human values to address global challenges through novelty and sustainability.

Mission of the Institute:

IM1.To creates next generation leaders by effective teaching learning methodologiesand instill scientific spark in them to meet the global challenges.

IM2.To transform lives through deployment of emerging technology, novelty and sustainability.

IM3.To inculcate human values and ethical principles to cater the societal needs.

IM4.To contributes towards the research ecosystem by providing a suitable, effectiveplatform for interaction between industry, academia and R & D establishments.

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

Vision of the Department:

To Excel in the emerging areas of Computer Science and Engineering by imparting knowledge, relevant practices and inculcating human values to transform the students as potential resources to contribute innovatively through advanced computing in real time situations.

Mission of the Department:

DM1. To provide strong fundamentals and technical skills for Computer Science applications through effective teaching learning methodologies.

DM2. To transform lives of the students by nurturing ethical values, creativity and novelty to become Entrepreneurs and establish start-ups.

DM3. To habituate the students to focus on sustainable solutions to improve the quality of life and the welfare of the society.

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CERTIFICATE

This is to certify that the **"Core Course Project"** Submitted by **CHORKO C (23CS030)** is a work done by him and submitted during **2024-2025** academic year, in partial fulfilment of the requirements for the award of the degree of **BACHELOR OF ENGINEERING** in **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**, at Chennai Institute of Technology.

Project Coordinator
(Dr.M.Ayeesha Nasreen M.E,Ph.D)

Internal Examiner

Head of the Department
(Dr.S.Pavithra M.E,Ph.D)

External Examiner

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CHORKO C **Reg No: 23CS030**

PREFACE

I, a student in the Department of Computer Science and Engineering need to undertake a project to expand my knowledge. The main goal of my Core Course Project is to acquaint me with the practical application of the theoretical concepts I've learned during my course.

It was a valuable opportunity to closely compare theoretical concepts with real- world applications. This report may depict deficiencies on my part but still it is an account of my effort.

The results of my analysis are presented in the form of an industrial Project, and the report provides a detailed account of the sequence of these findings. This report is my Core Course Project, developed as part of my 2nd year project. As an engineer, it is my responsibility to contribute to society by applying my knowledge to create innovative solutions that address their changes.

DECLARATION

I hereby declare that this project “Software Solutions To Identify The End Receiver of Cryptocurrency Transactions”, titled is my original work. It has been completed in accordance with the guidelines provided by Chennai Institute of Technology. This project has not been submitted for any other degree or diploma, and all sources and references used in the preparation of this project have been acknowledged appropriately. I affirm that the ideas and expressions herein are my own and do not infringe upon the rights of any other author or researcher.

This project represents my independent research and analysis. I confirm that the findings, conclusions, and recommendations contained within this document are based on my own work and insights. I have conducted thorough research and adhered to the highest standards of academic integrity throughout the process. This work is original and has not been previously published or submitted elsewhere. I take full responsibility for the content and quality of this project.

ABSTRACT

The primary goal of this project is to develop a software solution that will identify theend beneficiary of cryptocurrency transactions. As the level of anonymity associated with blockchain transactions grows, so does the danger to financial security and the intricacy of fraud detection. This study provides a data-driven methodology that combines blockchain forensics, transaction profiling, and heuristic algorithms to analyze and trace the flow of transactions effectively. Transaction flows in this approach are managed by real-time tracing of transactions through blockchain APIs, along with the continuous updating of address clusters and anomaly identification. The results presented here illustrate that the accurate and timely identification of individuals engaged in cryptocurrency transactions is feasible without breaching their anonymity. This report also facilitates financial transparency, compliance with blockchain regulation, and aids law enforcement.

The solution that has been introduced here employs blockchain analysis, clustering algorithms, and real-time monitoring of data for efficient tracing of cryptocurrency transfers and determination of the ultimate beneficiary. With transaction heuristic-rule-based profiling and machine-learning -based anomaly detection, the system is able to distinguish normal transfers from probable fraudulent transfers. This ensures that there is balance between privacy on the user side and transparency to regulators, banks, and financial institutions tracing flows of transfers without knowledge of secret user information.

In addition, the use of several blockchain APIs facilitates real-time observation of transactions in different networks, such as Bitcoin, Ethereum, and other prominent cryptocurrencies. Dynamic wallet address clustering, together with pattern discovery algorithms, facilitates the detection of transactional relations and the identification of fraudulent or money laundering activity. The initiative not only helps reinforce anti-money laundering (AML) operations but also helps in augmenting blockchain security compliance, making cryptocurrency systems more transparent and dependable.

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
AI	Artificial Intelligence
ML	Machine Learning
OCR	Optical Character Recognition
NLP	Natural Language Processing
AML	Anti-Money Laundering
KYC	Know Your Customer
API	Application Programming Interface
GDPR	General Data Protection Regulation
DEX	Decentralized Exchange
FATF	Financial Action Task Force
RNN	Recurrent Neural Networks
CNN	Convolutional Neural Networks
MFA	Multi-Factor Authentication
RBAC	Role-Based Access Control
UI	User Interface
UX	User Experience