

A
Major Project Report
on
**A Secure and Fine-grained Scheme for Data
Security in Industrial IoT Platforms for Smart City**

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

PALLE SNEHA
PALNATI ANUSHA
TIRUNAGARI RITHIKA

(196Y1A0576)
(196Y1A0577)
(196Y1A05A4)

Under the guidance
of

Dr. E. SUDARSHAN

Associate Professor, HOD of CSE



Department of Computer Science & Engineering
SUMATHI REDDY INSTITUTE OF TECHNOLOGY for WOMEN

(Approved by AICTE, New Delhi; Affiliated to JNTU, Hyderabad)

Ananthasagar(Vill), Hasanparthy(M), Warangal – 506 371 (T.S.), Website : www.sritw.org

2022-2023



Rajan

PRINCIPAL

Sumathi Reddy Institute of Technology for Women
Ananthasagar (V), Hasanparthy (M)
WARANGAL - 506 371 (T.S.)

SUMATHI REDDY INSTITUTE OF TECHNOLOGY for WOMEN

(Approved by AICTE, New Delhi; Affiliated to JNTU, Hyderabad)

Ananthasagar(Vill), Hasanparthy(M), Warangal – 506 371 (T.S.), Website : www.sritw.org

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

This is to certify that the project entitled “A Secure and Fine-grained Scheme for Data Security in Industrial IoT Platforms for Smart City” is submitted by *P. Sneha* (196Y1A0576), *P. Anusha*(196Y1A0577) and *T. Rithika*(196Y1A05A4) 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.


Dr. E. SUDARSHAN
Project Guide


Dr. E. SUDARSHAN
Head of the Department


External Examiner





PRINCIPAL
Sumathi Reddy Institute of Technology for Women
Ananthasagar (V), Hasanparthy (M)
WARANGAL - 506 371 (T.S.)

ABSTRACT

With the high popularity of IoT devices, industrial IoT platforms, such as smart factories and oilfield industrial control systems, have become a new trend in the development of smart city. Although various manufacturers pay wide attention to the different functional requirements of IoT platforms, they seldom consider security issues, especially in terms of data security, which has led to a large number of cases of privacy leakage. Some works have been made to provide secure and reliable communication solutions for industrial IoT platforms, unfortunately, as different communication protocols and interaction models are adopted in different scenarios, these solutions are mainly isolated and fragmented. We analyze the logic and requirements of different industrial IoT scenarios to abstracts them into a universal model. We summarize the possible attacks on different industrial IoT platforms and design a security scheme to capture these attacks based on the conditional proxy re-encryption primitive. The proposed scheme ensures that data cannot be accessed by an unauthorized user. We also evaluate the security and performance of our scheme, and the experimental results show that our scheme can achieve the functionality and security requirements with low overhead.



Rijan

Principal

Sumathi Reddy Institute of Technology for Women
Ananthasagar (V), Hasanparthy (M)
WARANGAL - 506 371 (TS)