# BLOCKCHAIN- ENABLED ONLINE CERTIFICATE GENERATION AND VALIDATION SYSTEMS FOR GOVERNMENT ORGANISATIONS

## A PROJECT REPORT

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*Under the guidance of,*

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*in partial fulfillment for the award of the degree of*

## BACHELOR OF TECHNOLOGY

### IN

### COMPUTER SCIENCE AND ENGINEERING

### At



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## PRESIDENCY UNIVERSITY

## BENGALURU

## MAY 2025
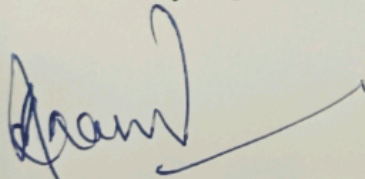
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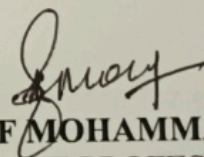
## SCHOOL OF COMPUTER SCIENCE ENGINEERING

## <u>CERTIFICATE</u>

This is to certify that the Internship/Project report **"BLOCKCHAIN-ENABLED ONLINE CERTIFICATE GENERATION AND VALIDATION SYSTEMS FOR GOVERNMENT ORGANISATIONS"** being submitted by "PRAKRUTHI S, DEEPTHI R, NIDHISHA N" bearing roll number "20211CSE0628, 20211CSE0618, 20211CSE0677" in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.
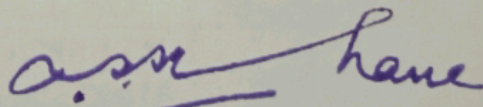
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# DECLARATION

I hereby declare that the work, which is being presented in the report entitled " **BLOCKCHAIN- ENABLED ONLINE CERTIFICATE GENERATION AND VALIDATION SYSTEMS FOR GOVERNMENT ORGANISATIONS"** In partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of my own investigations carried under the guidance of **Dr. ANAND PRAKASH, ASSOCIATE PROFESSOR, Presidency School of Computer Science and Engineering, Presidency University, Bengaluru.**

I have not submitted the matter presented in this report anywhere for the award of any other Degree.

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# ABSTRACT

This study explores the potential of blockchain technology for developing transparent and secure certificate issuance and verification systems. These solutions attempt to combat certificate fraud, as well as ineffective verification systems, by leveraging blockchain's decentralization and immutability features. In addition to academic credentials, blockchain-based solutions captured an increasing number of fields where improved security and faster verification is needed. Further reduction of human control and increase of efficiency comes from automating the issuance and validation of certificates through smart contracts. This study also considers the use of blockchain in medicine and IoT applications, demonstrating how blockchain can safeguard digital records and its versatility. This paper captures the possibility of blockchain technology transforming certificate management while providing trust through a comprehensive examination of existing literature and practices.

# ACKNOWLEDGEMENT

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