PRESIDENCY UNIVERSITY
Private University Estd. in Karnataka State by Act No. 41 of 2013
Itgalpura, Rajankunte, Yelahanka, Bengaluru – 560064

UTILIZATION OF IMAGES FOR MONITORING OF PROGRESS OF CONSTRUCTION ACTIVITIES FOR BUILDING CONSTRUCTION

A PROJECT REPORT

Submitted by

GAGANA S R- 20221ISE0025

SNEHA KUMARI- 20221ISE0042

TANUSHREE M S- 20221ISE0021

Under the guidance of,
Dr. Zafar Ali Khan N, Professor & HOD

BACHELOR OF TECHNOLOGY

IN

INFORMATION SCIENCE AND ENGINEERING (AI AND ROBOTICS)

PRESIDENCY UNIVERSITY

BENGALURU

DECEMBER 2025

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PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

BONAFIDE CERTIFICATE

Certified that this report "**UTILIZATION OF IMAGES FOR MONITORING OF PROGRESS OF CONSTRUCTION ACTIVITIES FOR BUILDING CONSTRUCTION**" is a bonafide work of GAGANA S R (20221ISE0025), SNEHA KUMARI(20221ISE0042), TANUSHREE M S(20221ISE0021), who have successfully carried out the project work and submitted the report for partial fulfilment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY in INFORMATION SCIENCE AND ENGINEERING (AI AND ROBOTICS) during 2025-26.

Dr. Zafar Ali Khan N
Project Guide
PSCS
Presidency University

Ms. Suma N G
Program Project Coordinator
PSCS
Presidency University

Dr Sampath A K
Dr. Geetha A
School Project Coordinators
PSCS
Presidency University

Dr. Zafar Ali Khan N
Head of the Department
PSCS
Presidency University

Dr. Shakkeera L
Associate Dean
PSCS
Presidency University

Dr. Duraipandian N
Dean
PSCS & PSIS
Presidency University

Name and Signature of the Examiners

1) Dr. Abdul Majid
2) Dr. ZAFAR ALI KHAN N

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PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

We the students of final year B.Tech in INFORMATION SCIENCE ENGINEERING ARTIFICIAL INTELLIGENCE AND ROBOTICS at Presidency University, Bengaluru, named GAGANA S R, SNEHA KUMARI, TANUSHREE M S, hereby declare that the project work titled **"UTILIZATION OF IMAGES FOR MONITORING OF PROGRESS OF CONSTRUCTION ACTIVITIES FOR BUILDING CONSTRUCTION "** has been independently carried out by us and submitted in partial fulfillment for the award of the degree of B.Tech in INFORMATION SCIENCE AND ENGINEERING (AI AND ROBOTICS) during the academic year of 2025-26. Further, the matter embodied in the project has not been submitted previously by anybody for the award of any Degree to any other institution.

GAGANA S R	USN: 20221ISE0025
SNEHA KUMARI	USN: 20221ISE0042
TANUSHREE M S	USN: 20221ISE0021

PLACE: BENGALURU

DATE: 01-December 2025

ACKNOWLEDGEMENT

For completing this project work, we have received the support and guidance from many people whom I would like to mention with a deep sense of gratitude and indebtedness. We extend our gratitude to our beloved **Chancellor, Vice Chancellor, Pro-Vice Chancellor, and Registrar** for their support and encouragement in the completion of the project.

I would like to sincerely thank my internal guide, **Dr. Zafar Ali Khan, Professor,** Presidency School of Computer Science and Engineering, Presidency University, for her moral support, motivation, timely guidance and encouragement provided to us during the period of our project work.

I am thankful to **Dr. Zafar Ali Khan N, Professor, Head of the Department, Presidency School of Computer Science and Engineering,** Presidency University, for his mentorship and encouragement.

We express our cordial thanks to **Dr. Duraipandian N,** Dean PSCS & PSIS, **Dr. Shakkeera L,** Associate Dean, Presidency School of Computer Science and Engineering and the Management of Presidency University for providing the required facilities and intellectually stimulating environment that aided in the completion of my project work.

We are grateful to **Dr Sampath A K, Dr Geetha A., PSCS** school Project Coordinators, **Ms Suma N G, Program Project Coordinator,** Presidency School of Computer Science and Engineering, for facilitating problem statements, coordinating reviews, monitoring progress, and providing their valuable support and guidance.

We are also grateful to the Teaching and Non-Teaching staff of Presidency School of Computer Science and Engineering, and also staff from other departments who have extended their valuable help and cooperation.

GAGANA S R
SNEHA KUMARI
TANUSHREE M S

Abstract

In the contemporary construction sector, proper project monitoring and control are a very crucial element towards ensuring that, projects are delivered on time, cost effectively, and quality results. Conventional ways of measuring progress like manual inspection and paper reports can be slow, subjective and prone to human error. As a way of solving these problems, monitoring of construction progress through the use of images has become a new and reliable approach. This method presupposes capturing visual information on the construction sites by using digital cameras, smartphones, drones, and surveillance cameras every certain period throughout the project.

The photos taken are valuable documents of the work at the site. The stakeholders, project managers, and engineers can easily evaluate the progress of work visually. Comparison of images captured over time will be able to monitor the progress with reference to the scheduled times, identify delays or differences, and ensure the construction adheres to the design requirements. Monitoring through images provides an objective and data-based perspective of the situation at a site, eliminating the possibility of subjective human assessments.

Furthermore, the integration of the image analysis with such technologies as Artificial Intelligence (AI), Computer Vision, and Building Information Modeling (BIM) has significantly enhanced the accuracy of the progress tracking and has increased its efficiency. The AI algorithms are capable of automatically identifying structural parts, quantifying quantities and estimating the percentage completion on the basis of images. The visual insights when linked to BIM models could be compared to the digital plans to identify deviations, safety issues, or places that will require corrections. High-resolution drones provide aerial survey of a big or complicated location, which would otherwise be unfeasible by ground inspections.

The remote collaboration among the stakeholders of a project is also facilitated through the use of image-based monitoring systems. Cloud platforms can be used to share real-time visual updates and allow architects, engineers, and clients to check the site progress at any location. This improves the level of transparency, communication, and decision-making in the project. Also, maintaining history of documentation in picture form is an accountability measure and will assist in solving quality or time related disputes.

On the whole, the ability to track the progress of the construction with the help of images is a great step towards more intelligent and effective project management. It does not only enhance precision and efficiency, but also enables sustainable business by minimizing field trips and maximizing on resource utilization. With the shift to the use of digital tools in the construction industry, the image-based monitoring can be considered as a low-cost, scalable, and potent solution to improve project results in a contemporary construction industry.