Dr. AMBEDKAR INSTITUTE OF TECHNOLOGY

Near Jnana Bharathi Campus, Bengaluru-560 056.

(An Autonomous Institution, Aided by Government of Karnataka)

Aided By Govt. of Karnataka

Project Report

On

"**Interactive Image Processing**"

Submitted By

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Under the Guidance

Of

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Department of Computer Science & Engineering

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CERTIFICATE

This is to certify that the project entitled "**Interactive Image Processing** "submitted in the partial fulfillment of the requirement of the 6th semester Computer Graphics and Fundamentals of Image Processing laboratory curriculum during the year 2023-24 is a result of bonafide work carried out by

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HAJARATALI S MOGALALLI

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ABSTRACT

This image editing application, built with Python, Tkinter, and OpenCV, offers a robust toolkit for real-time image processing. Key features include resizing, rotating, and flipping images; applying filters like grayscale, Gaussian blur, and edge detection; adjusting brightness and contrast with interactive sliders; and detecting faces using OpenCV's Haar cascades.

The user-friendly interface supports dynamic image adjustments, such as histogram equalization, color inversion, dilation, and erosion. The layout adapts to image dimensions for optimal viewing, and undo functionality allows for easy experimentation. This project showcases the integration of Tkinter for the GUI and OpenCV for advanced image processing, providing a powerful editing tool for both casual users and professionals.

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