VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI - 590018

Mini Project Report On

"VERIFICATION OF SIGNATURE"

A mini project report submitted in partial fulfillment of the requirements for

COMPUTER GRAPHICS AND IMAGE PROCESSING LABORATORY (21CSL66)

In

Computer Science and Design

Submitted by

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CERTIFICATE

This is to certify that the Computer Graphics and Image Processing Laboratory with Mini Project entitled **"VERIFICATION OF SIGNATURE"** has been completed by

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The Bonafide students of the Department of Computer Science and Design, Alva's Institute of Engineering and Technology in the **DEPARTMENT OF COMPUTER SCIENCE AND DESIGN** of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2023–2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini Project report has been approved as it satisfies the academic *requirements concerning the Mini Project work of Computer Graphics and Image* Processing subject prescribed for the Bachelor of Engineering Degree.

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Mini Project Guide

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ABSTRACT

This project presents a novel Signature Matching system that utilizes deep learning techniques to verify the authenticity of signatures. The system is designed to be user-independent, allowing it to accurately match signatures from various individuals. The core of the system is a fine-tuned ResNet50 constitutional neural network (CNN) model, which is trained on a dataset of signatures to learn distinctive features and patterns. The system's architecture is divided into two stages: signature preprocessing and feature extraction, followed by signature matching and verification.

The system's performance is evaluated using a comprehensive dataset of signatures, and the results dedmonstrate a high accuracy rate in signature verification. The system's user-friendly interface, developed using React.js, allows users to upload or capture signature images, which are then processed and matched using the trained model. The system's robustness and accuracy make it an effective solution for various applications, including forensic science, banking, and law enforcement, where signature verification is a critical aspect of identity authentication. The project's innovative approach and promising results pave the way for further research and development in the field of signature verification and identity authentication.