SCRITXPERT: MULTIMODAL HANDWRITING RECOGNITION USING DEEP LEARNING AND GESTURE CONTROL

A cutting-edge handwriting recognition system that seamlessly integrates deep learning and gesture control, enabling accurate, multimodal text recognition from images, PDFs, real-time writing, and hand gestures. This innovative tool brings enhanced accessibility and versatility, designed to impact fields from education to healthcare.

BY

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MAJOR PROJECT

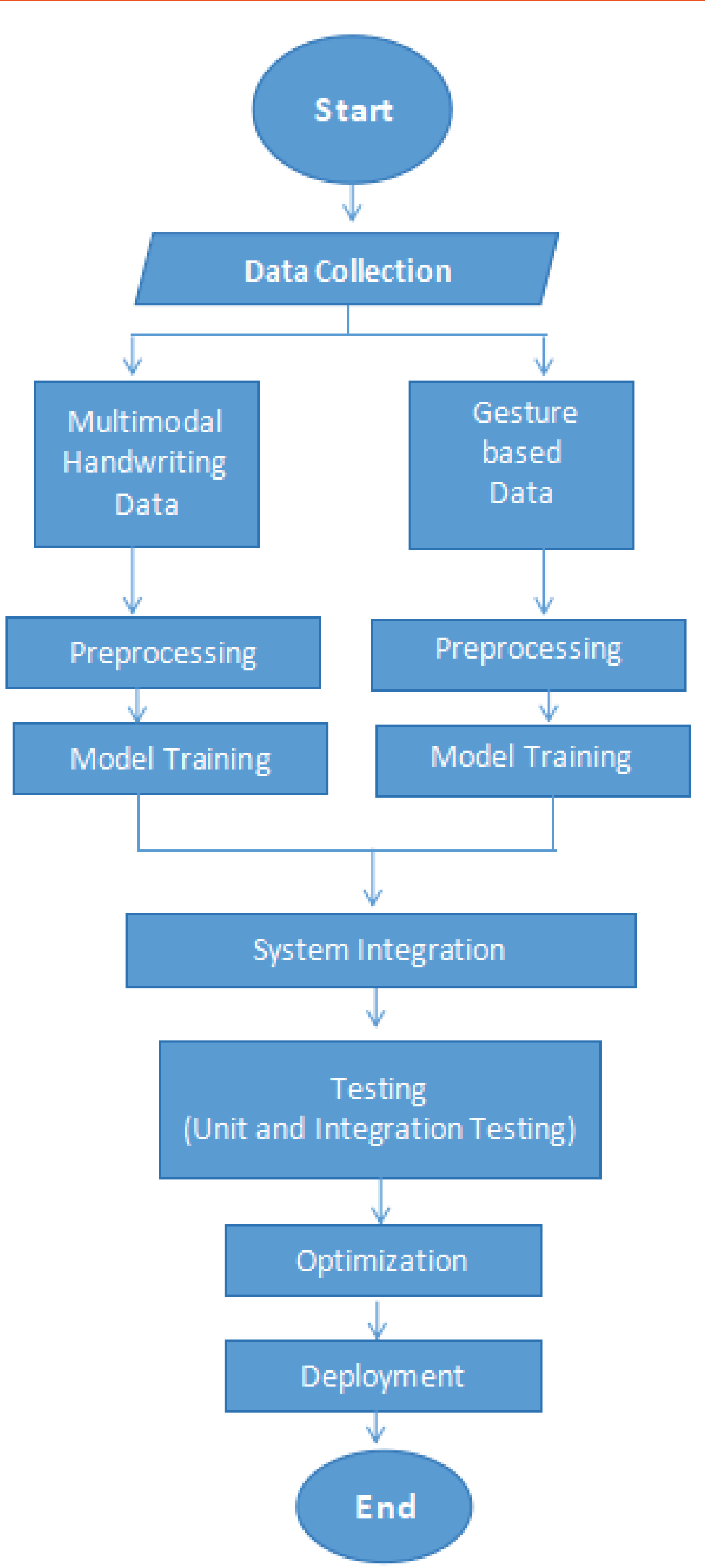Guru Nanak Dev Engineering College, Ludhiana

01. INTRODUCTION

Our project presents an advanced handwriting recognition system capable of interpreting handwritten text across diverse input methods, such as images, PDFs, real-time writing, and gesture-based inputs. By integrating state-of-the-art deep learning techniques with gesture control, this system aims to enhance recognition accuracy and adaptability.
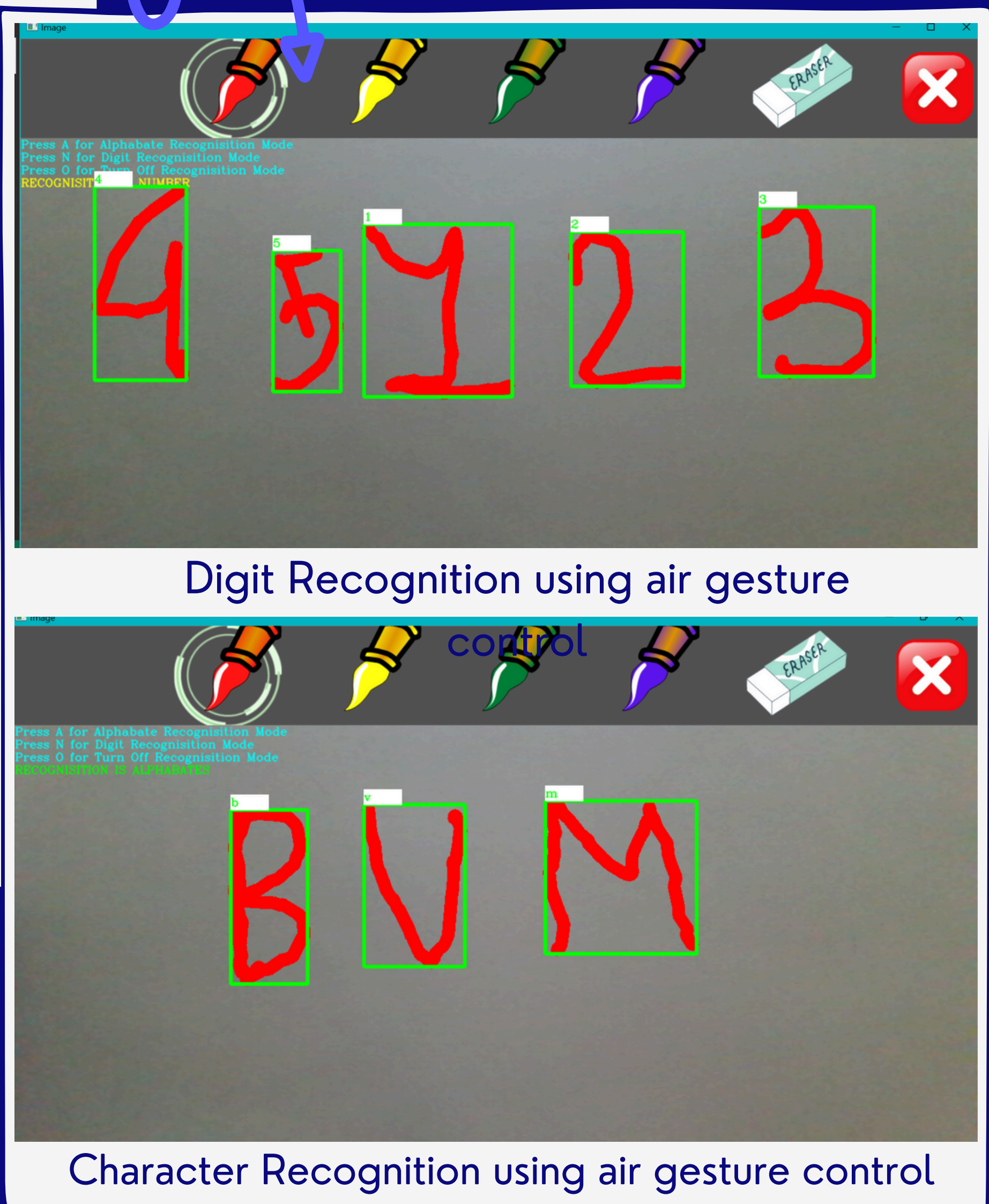
02. OBJECTIVE

1. Train deep learning models that can accurately recognize handwriting across different input types.
2. Implement a Text-to-speech conversion feature to make recognized text accessible audibly.
3. Design an effective gesture-based recognition system for character recognition and digit recognition.

03. METHODOLOGY

04. RESULTS/FINDINGS

- Multimodal Integration: Unique combination of handwriting and gesture recognition.
- Enhanced Efficiency: Optimized for real-time processing of inputs.
- Practical Application: A versatile, user-centric system suitable for real-world scenarios.

Air gesture control system with recognition (character and digit) ccapabilities

Digit Recognition using air gesture control

Character Recognition using air gesture control

05. CONCLUSION

This project advances handwriting recognition by creating a **multimodal system** that combines handwriting and gesture-based inputs using **deep learning**. With real-time processing and **handwriting-to-speech conversion**, it offers high adaptability and accessibility, with potential applications in **education, healthcare, cultural preservation, and communication**.

IMPORTANT!

it is a powerful tool across education, healthcare, cultural preservation, and communication.