A study on

ASSAMESE HAND WRITTEN DIGIT CLASSIFICATION

A Report submitted in partial fulfillment of the requirements for the degree of

Bachelor of Information Technology

Under

The Assam Royal Global University

Submitted By:

RIA SAIKIA (192052013)

PIALI DAS (192052009)

Under the guidance of
Ms. PARISHMITA GOSWAMI
Teaching Assistant

Department of Information Technology
Royal School of Information Technology
Guwahati-781035

January-2022

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DECLARATION

We, Ria Saikia, bearing Roll no. 192052013 and Piyali Das, bearing Roll no. 192052009, students of Information Technology department under Royal School of Information Technology, hereby declare that this Final Semester Project Report/Dissertation entitled Assamese Handwritten Digit Classification is a bona fide project work undertaken by us, during the period of September 2021 to December 2021, as partial fulfillment of the requirements of the degree of The Assam Royal Global University, Guwahati.

Further, we declare that this report has not been submitted by us elsewhere for the award of any degree/diploma/certificate and not linked to any other qualifications.

SIGNATURE
(RIA SAIKIA)

Date:
Place: Guwahati

REGISTRATION NO. 1190308
ROLL NO. 192052013

SIGNATURE
(PIYALI DAS)

REGISTRATION NO. 1190304
ROLL NO. 192052009

Place: Guwahati

THE ASSAM ROYAL GLOBAL UNIVERSITY, GUWAHATI

CERTIFICATE

This is to certify that the report entitled "Assamese Handwritten Digit Classification" submitted by Ria Saikia (Roll No. 192052013) and Piyali Das (Roll No. 192052009) of B.Sc 5th semester, Information Technology, is an authentic work carried out by them under my supervision and guidance.

To the best of my knowledge, the matter embodied in the report has not been submitted to any other University/Institute for the award of any Degree or Diploma.

Signature of Supervisor(s)
Name(s)
Department(s)
The Assam Royal Global University
January, 2022

ACKNOWLEDGMENT

We would like to express our deepest gratitude to Information Technology Department of The Assam Royal Global University for providing us the opportunity to undertake this mini project on the title "Assamese Handwritten Digit Classification".

We acknowledge with sincere thanks to our project guide Parishmita Goswami for excellent guidance and selfless efforts. Without their co-operative attitude, constant inspiration and dedicated at each and every stage of this project it would not be possible to make this project complete.

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PIYALI DAS (ROLL NO. 192052009)
RIA SAIKIA (ROLL NO. 192052013)

EXECUTIVE SUMMARY

In the recent few decades, there has been a lot of effort in literature focusing on Indian languages for mechanically detecting characters. However, Assamese being extensively spoken and used in many governmental tasks and activities in North-East India, only a few of them focused on optical character recognition of the language. Due to differences in people's writing styles, the minimal contribution in this field appears to be weak and insufficient in their ability to distinguish handwritten characters. This prompted us to develop a computational model for automatic recognition of Assamese numbers in ten different classes Ranging from 0 to 9 .

This study employs convolutional neural network (CNN) and artificial neural network (ANN) to learn and understand the various styles of Assamese handwritten digits.

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