Ensemble learning framework for Biometric Data via deep Hash Ranking

CS4090 Project Final Report

Submitted by

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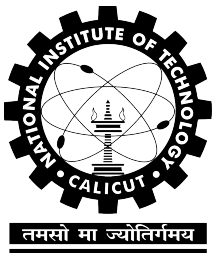

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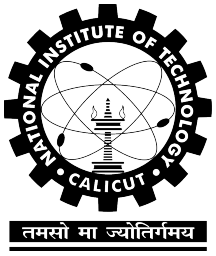

2024

CERTIFICATE

Certified that this is a bonafide record of the project work titled

PROJECT TITLE

done by

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of eighth semester B. Tech in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering of the National Institute of Technology Calicut

Project Guide
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07.05.2024

DECLARATION

I hereby declare that the project titled, **Ensemble learning framework for Biometric Data via deep Hash Ranking**, is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or any other institute of higher learning, except where due acknowledgement and reference has been made in the text.

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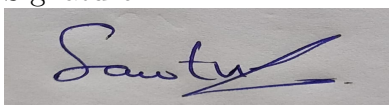

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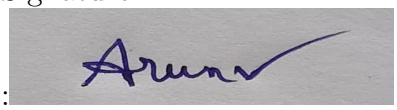

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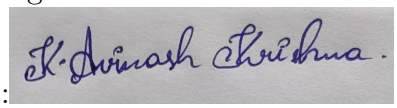

Abstract

Our task is aimed toward improving the retrieval and analysis of biometric facts via the usage of deep hashing methodologies. Biometric statistics encompasses various personal identifiers, which includes fingerprints, facial traits, and iris scans. Efficient retrieval and analysis of biometric data are vital for programs inclusive of identity verification, get right of entry to manipulate, and protection. In the world of biometric facts, traditional strategies have traditionally been employed for retrieval. Nevertheless, this summary underscore the capability of deep hashing techniques to significantly increase the pace and performance of these retrieval procedures. Deep hashing on this context merges feature extraction with hash coding, which involves the conversion of biometric traits into binary hash codes. Furthermore, we introduce an ensemble-based totally deep neural model framework tailor-made for the retrieval and evaluation of biometric facts. This framework has been engineered to collect concise hash codes containing wealthy semantic facts while adhering to hash constraints. Ensemble strategies are carried out to reinforce the performance, which include weighted voting for integrating. Rating data into the retrieval technique. This approach endeavours to improve the performance and precision of biometric statistics retrieval and analysis.