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## 80\_Recommendations

The study can be extended to include the following:

- An automated model for the feature extraction as well as multilevel classification using DL concepts can be considered to classify AD.
- The cloud architecture can be considered for proposing DL models.
- The hyper-parameters in the CNN model can be tuned by introducing hybrid optimization algorithms.
- Deep neural network architectures with hybrid combinations can be explored like Multilayer Perceptrons (MLPs), Deep belief networks, AE and Restricted Boltzmann Machines (RBMs).
- Further, studies using various kinds of image modalities such as CT and PET scans can be considered for constricting a model for AD classification.

## DETAILS REQUIRED FOR UPLOADING THESIS IN SHODHGANGA

Department : Computer Science  
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### **DEGREE DETAILS**

Registration Date : 4-01-2019  
Completed Date : 14-08-2025  
Awarded Date : 14-08-2025

### **THESIS DETAILS**

Title : A Framework for Developing an Enhanced Convolutional Neural Network-based Ensemble Learning Model for Alzheimer's Disease Classification using MRI Brain Images

Alternative Title (or Subtitle) : -

Abstract (Enclosed) : Yes

Note : This study proposes an enhanced CNN-based ensemble learning framework for classifying Alzheimer's disease using MRI brain images. It integrates advanced preprocessing, feature extraction, and optimized ensemble techniques to improve accuracy, address class imbalance, and support early diagnosis.

Keywords : Alzheimer's Disease, MRI, Early Detection, CNN, Ensemble Learning, Transfer Learning, BAGGING\_SVM, BAGGING\_NEAT

Language : English

Coverage (e.g. English Literature) : English

Citation Reference : 110

(No. of Reference / Bibliographic Records)

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### Student Approval Form

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<b>Thesis Title</b>	A Framework for Developing an Enhanced Convolutional Neural Network-based Ensemble Learning Model for early detection of Alzheimer's Disease Classification using MRI Brain Images
<b>Year of Award</b>	2025

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Place : Coimbatore

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