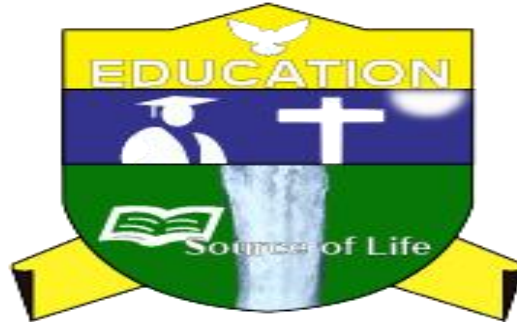


RUAHA CATHOLIC UNIVERSITY

(RUCU)



FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY.

DEPARTMENT OF COMPUTER SCIENCE

COURSE CODE: RMS 311

COURSE NAME: RESEARCH METHODS

SUPERVISOR NAME: TUMAIN EDGER

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DEEP RESIDUAL LEARNING FOR IMAGE RECOGNITION.

1. INTRODUCTION.

The paper introduces ResNet, a deep neural network designed to solve the difficulty of training very deep models. Traditional deep networks suffer from vanishing gradients and reduced accuracy when more layers are added. The authors propose residual learning, which allows information to pass through layers more easily, making deep networks easier to train and more accurate for image recognition tasks.

2. PAPER NAME & AUTHORS

Title: Deep Residual Learning for Image Recognition

Authors: Kaiming He, Xiangyu Zhang, Shaoqing Ren, Jian Sun

3. PROBLEM STATEMENT.

Deep neural networks become harder to train as they grow deeper. They experience vanishing gradients, slow learning, and accuracy degradation. Therefore, there is a need for a method that allows very deep networks to train effectively without performance loss.

4. OBJECTIVES

Main objective

To develop a deep residual learning for image recognition

Specific objectives

1. To design a model that can train very deep networks effectively.
2. To introduce residual connections to solve gradient problems.
3. To improve image recognition accuracy.
4. To achieve state-of-the-art results on benchmark datasets.

5. RESEARCH GAP

Previous deep learning models could not train very deep networks successfully due to vanishing gradients and accuracy drop. There was no effective method to allow networks with many layers to learn well. ResNet fills this gap by using residual connections, which make deep training possible and effective.