Amrutvahini College of Engineering, Sangamner

Department of Artificial Intelligence & Data science

Report of "Roleplay"

Date: 11.05.2026

Subject: Artificial Neural Network

Title: Convolutional Neural Networks (CNN) Through Animation-Based Learning

Introduction

Artificial Neural Networks (ANN) are a major component of Artificial Intelligence and Deep Learning. Among ANN models, Convolutional Neural Networks (CNN) are widely used in image recognition, medical imaging, autonomous vehicles, and computer vision applications. However, CNN concepts such as convolution, pooling, feature extraction, and backpropagation are often difficult for students to visualize through traditional teaching methods.

To improve conceptual understanding and engagement, **animation-based pedagogy** can be used. Animated visualizations simplify complex CNN operations by showing how images move through layers and how features are extracted step-by-step.

Objectives of the Innovative Pedagogy

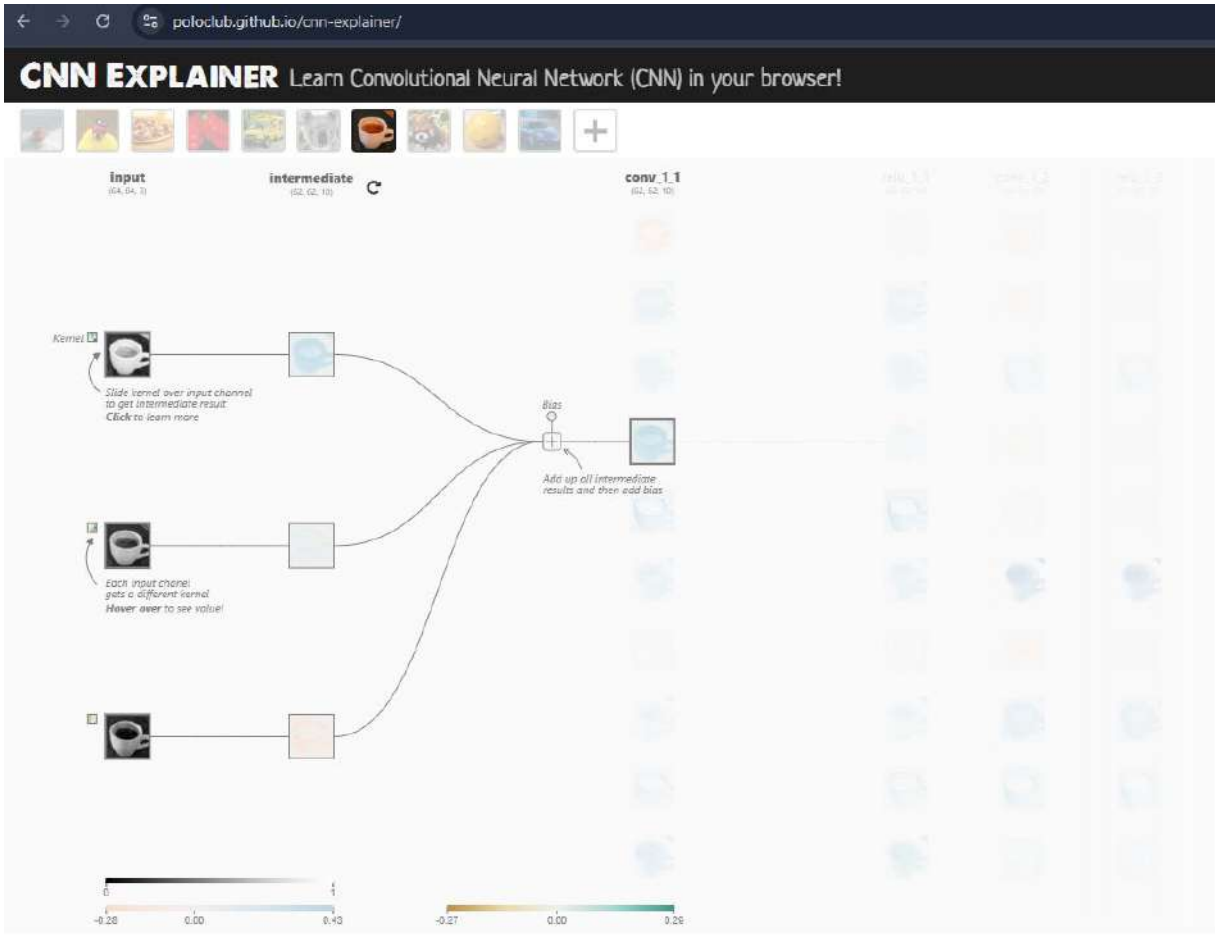
The main objectives are:

1. To simplify complex CNN concepts using animations.
2. To improve student engagement and attention.
3. To enhance conceptual visualization of convolution and pooling.
4. To support active and experiential learning.
5. To improve retention and application of ANN concepts.

Outcomes Achieved

After implementing animation-based pedagogy:

- Students showed higher engagement.
- Conceptual understanding improved significantly.
- Students performed better in ANN practical assignments.
- Increased interest in Deep Learning and AI projects was observed.



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