IEEE.org | IEEE Xplore | IEEE SA | IEEE Spectrum | More Sites   Subscribe   Donate | Cart | Create Account | Personal Sign In

IEEE Xplore®   Browse ∨   My Settings ∨   Help ∨   Institutional Sign In   ◆IEEE

All ▾   🔍
                                                  ADVANCED SEARCH

Activity Prediction in Tri Pramana Learning Concept in ResNet-based Virtual Reality Environment

Publisher: IEEE   Cite This   📄 PDF

I Gede Partha Sindu ; Rukmi Sari Hartati ; Made Sudarma ; Nyoman Gunantara   All Authors

1 Cites in Paper   **21** Full Text Views

Ⓡ   ❮   ©   📁   🔔

Abstract:

This research aims to visually predict activities in the Tri Pramana Learning Concept in a virtual reality (VR) environment using the ResNet-50 deep learning architecture. The method in this research consists of dataset preparation (data acquisition, frame extraction, data cleaning, image resizing, data subsetting), ResNet-50 model building, and evaluation. The data used in this study comes from learning recordings in a virtual classroom environment of fiber optic splicing practicum. The total number of images in this dataset is 2,163 which is divided into training subset (70%), validation subset (20%), and testing subset (10%). This research focuses on experimenting with epoch variations of 100, 200, 300, and 400 to produce the best model. Through the investigation, it was found that the model with epoch 400 was able to provide the best performance with Accuracy 97.72%, Precision 97.81%, Recall 97.77%, dan F1- Score 97.79%. Future experiments will focus on the variation of learning rate and batch hyperparameters as well as comparisons with other deep learning architectures to predict activities in the Tri Pramana Learning Concept in virtual environments.

Published in: 2023 International Conference on Smart-Green Technology in Electrical and Information Systems (ICSGTEIS)

Date of Conference: 02-04 November 2023   **DOI:** 10.1109/ICSGTEIS60500.2023.10424277