03 Oct 2023

The Vice-Chancellor

Bangladesh University of Business and Technology

Plot #77-78, Road #9, Rupnagar R/A, Mirpur-2, Dhaka

Through Director of IQAC

Subject: About the Financial Support for our accepted IEEE Conference paper.

Sir,

With due respect, I am glad to share with you that our research paper titled “Improved Convolutional Neural Network and Transfer Learning with VGG16 Approach for Image Classification” under my supervision has been accepted for the 2023 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT2023) by **IEEE Bahrain Section, University of Bahrain, Bahrain** for presentation. I have also four coauthor of our research paper which is Habibullah, Md. Oli Ullah, Minhaz Kamal and Md. Sabbir Hasan Sohag. I need financial support for registration to attend and present it at IEEE Xplore Digital Library. I therefore kindly request that you provide me with financial support of **5,500** tk to present our research at 3ICT2023. Please consider making a financial contribution to support our team. I have attached the accepted confirmation mail from 3ICT2023.

I therefore kindly request that you provide me with financial support of **5,500** tk to present our research at 3ICT2023.

Sincerely Your’s

Md. Saifur Rahman

Assistant Professor and Chairman

Dept. of CSE

Bangladesh University of Business and Technology (BUBT)

**Abstract:**

Transfer learning may boost modeling speed. This research unifies the improved VGG16 model. Skipping VGG16’s entirely connected layer and tying it to the layer following it improves CNN’s architecture and reduces its processing burden. CNNs are classifying cat and dog photos. With a small dataset, CNN training may take time and resources. Transfer learning uses ImageNet models to handle similar challenges in new contexts. Transfer learning enhances CNN cat-dog classification. The proposed technique selects a suitable pre-trained model, freezes its layers to retain acquired properties, adds layers to learn task-specific features, and tunes it using the cat and dog dataset. Data augmentation improves model performance and prevents overfitting. Hyperparameter optimization and validation enhance model accuracy and speed. This method enhances cat and dog photo classification even without adequate data to train CNNs with an accuracy of 97%.

**Confirmation Email from 3ICT2023 Chair:**















