



Published on *edacentrum* (<https://www.edacentrum.de>)

[Home](#) > [Printer-friendly PDF](#)

Edge-Optimized Incremental Learning in Deep Neural Networks for Human-Centric Applications

Prof. Tsung-Han Tsai, Department of Electrical Engineering, National Central University, TW

Abstract

Incremental learning techniques aim to increase the capability of Deep Neural Network (DNN) model to add new classes in the pre-trained model. However, DNNs suffer from catastrophic forgetting during the incremental learning process. Existing incremental learning techniques try to reduce the effect of catastrophic forgetting by either using previous samples of data while adding new classes in the model or designing complex model architectures. This leads to high design complexity and memory requirements, which make incremental learning impossible to implement on the edge devices, which have limited memory and computation resources. The application of incremental learning is very extensive, particularly in machine vision tasks such as object recognition, gesture recognition, and human pose estimation.

Contact information

<http://www.ee.ncu.edu.tw/~han> ^[1]

Email: [han@ee \[dot\] ncu \[dot\] edu \[dot\] tw](mailto:han@ee.ncu.edu.tw)

edacentrum | Schneiderberg 32 | 30167 Hannover | fon: +49 511 762-19699 | email: [info@edacentrum \[dot\] deup](mailto:info@edacentrum.de)

Source URL: <https://www.edacentrum.de/en/edge-optimized-incremental-learning-deep-neural-networks-human-centric-applications>

Links:

[1] <http://www.ee.ncu.edu.tw/~han>