## MarginDistillation: Distillation for Face Recognition Neural Networks with Margin-Based Softmax

Authors : Svitov David, Alyamkin Sergey

**Abstract :** The usage of convolutional neural networks (CNNs) in conjunction with the margin-based softmax approach demonstrates the state-of-the-art performance for the face recognition problem. Recently, lightweight neural network models trained with the margin-based softmax have been introduced for the face identification task for edge devices. In this paper, we propose a distillation method for lightweight neural network architectures that outperforms other known methods for the face recognition task on LFW, AgeDB-30 and Megaface datasets. The idea of the proposed method is to use class centers from the teacher network for the student network. Then the student network is trained to get the same angles between the class centers and face embeddings predicted by the teacher network.

1

Keywords : ArcFace, distillation, face recognition, margin-based softmax

Conference Title : ICDLFR 2020 : International Conference on Deep Learning and Face Recognition

Conference Location : Amsterdam, Netherlands

**Conference Dates :** August 06-07, 2020