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SmartData@PoliTO



December 14th, 2020, 5:30 PM CEST

SmartTalk: on Microsoft Teams



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Deep Inter Prediction Enhancement for Video Compression

ABSTRACT

In this work a Neural Network is employed for improving the performances of the HEVC Video Compression standard. This is achieved by using the network for improving the quality of a procedure called inter-prediction and thus reducing the temporal redundancy between frames.

BIOGRAPHY

He is a PhD of the 34th cycle in the Department of Electrics, Electronics and Telecommunications. The field of his research is Image and Video processing, and in particular he is developing a Video Compression algorithm based on Deep Neural Networks in the scope of a project powered by Rai dedicated to the development of new techniques for video coding. This work is being carried on under the Supervision of professors Enrico Magli and Tiziano Bianchi of the Politecnico di Torino and with the collaboration of the interdepartmental center Smart Data. He received a Master Degree in the Communications And Computer Networks Engineering in 2017 with a grade of 108/110 after a thesis period in the Sony Stuttgart Technology EuTEC Research Center with a work with the title “Multispectral Neural Networks using Neural Network”. After graduation he collaborated for 8 months with the project EO-ALERT – “Next Generation Satellite Processing Chain for Rapid Civil Alerts” as a member of the Image Processing Lab. During this period he worked at implementing a compression algorithm for optical and SAR images on-board of satellites.

