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Development of channel mismatch detection algorithm for stereoscopic video 12

***Abstract***

***Channel mismatch (the result of swapping left and right views) – one of the stereoscopic video artefacts, that can introduce major discomfort when viewing. Therefore, it is important to be able to detect and fix in proper time this artefact at the production stage. A novel channel mismatch detection method is presented in this work that has high accuracy in comparison with analogues. In addition to features, described in [5], convolutional neural networks were used to analyze views and corresponding disparity maps for presence of channel mismatch in the scene. A training set consisting of 113 thousand samples was prepared for convolutional neural networks training. Logistic regression and SVM models were trained on the resultant features and used for channel mismatch probability prediction. A test set was prepared and an experimental evaluation of the proposed method was performed.***

***Keywords: stereoscopic video, quality assessment, channel mismatch, machine learning, convolutional neural networks.***

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