

I.E. Livieris, T. Kotsilieris, I. Anagnostopoulos and V. Tampakas, [DTCo: An ensemble SSL algorithm for X-rays classification](#)

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Abstract - During the last decades, the classification of images constitutes a typical method for diagnosing many abnormalities and diseases. The application of an efficient classification method is considered essential in modern diagnostic medicine in order to increase the number of analyzed patients and decrease the analysis time. The significant storage capabilities of electronic media have enabled research centers to accumulate repositories of classified (labeled) images and mostly of a large number of unclassified (unlabeled) images. Semi-supervised learning algorithms have become a hot topic of research as an alternative to traditional classification methods, exploiting the explicit classification information of labeled data with the knowledge hidden in the unlabeled data for building powerful and effective classifiers. In this work, we propose a new ensemble self-labeled algorithm, called DTCo, for X-rays classification. The efficacy of the presented algorithm is illustrated by a series of experiments against other state-of-the-art self-labeled methods.