Popescu / Ionescu

Knowledge Transfer between Computer Vision and Text Mining

Similarity-based Learning Approaches

This ground-breaking text/reference diverges from the traditional view that computer vision (for image analysis) and string processing (for text mining) are separate and unrelated fields of study, propounding that images and text can be treated in a similar manner for the purposes of information retrieval, extraction and classification. Highlighting the benefits of knowledge transfer between the two disciplines, the text presents a range of novel similarity-based learning (SBL) techniques founded on this approach. Topics and features: describes a variety of SBL approaches, including nearest neighbor models, local learning, kernel methods, and clustering algorithms; presents a nearest neighbor model based on a novel dissimilarity for images; discusses a novel kernel for (visual) word histograms, as well as several kernels based on a pyramid representation; introduces an approach based on string kernels for native language identification; contains links for downloading relevant open source code.

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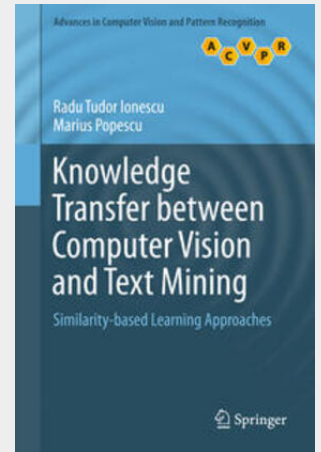
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