

Graph-Based Representations in Pattern Recognition

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Many vision problems have to deal with different entities (regions, lines, line junctions, etc.) and their relationships. These entities together with their relationships may be encoded using graphs or hypergraphs. The structural information encoded by graphs allows computer vision algorithms to address both the features of the different entities and the structural or topological relationships between them. Moreover, turning a computer vision problem into a graph problem allows one to access the full arsenal of graph algorithms developed in computer science. The Technical Committee (TC15, <http://www.iapr.org/tcs.html>) of the IAPR (International Association for Pattern Recognition) has been funded in order to federate and to encourage research work in these fields. Among its activities, TC15 encourages the organization of special graph sessions at many computer vision conferences and organizes the biennial workshop GbR. While being designed within a specific framework, the graph algorithms developed for computer vision and pattern recognition tasks often share constraints and goals with those developed in other research fields such as data mining, robotics and discrete geometry. The TC15 community is thus not closed in its research fields but on the contrary is open to interchanges with other groups/communities.

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