



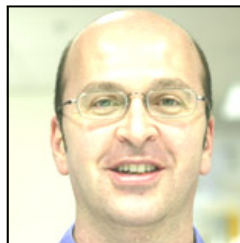
UNIVERSITY OF CENTRAL FLORIDA
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“Discriminative prototype selection methods for graph embedding”

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ABSTRACT

Graphs possess a strong representational power for many types of patterns. However, a main limitation in their use for pattern analysis derives from their difficult mathematical treatment. One way of circumventing this problem is that of transforming the graphs into a vector space by means of graph embedding. Such an embedding can be conveniently obtained by using a set of “prototype” graphs and a dissimilarity measure. However, when we apply this approach to a set of class-labelled graphs, it is challenging to select prototypes capturing both the salient structure within each class as well as inter-class separation. In this paper, we introduce a novel framework for selecting a set of prototypes from a labelled graph set taking their discriminative power into account. Experimental results show that such a discriminative prototype selection framework can achieve superior results in classification compared to other well-established pro-prototype selection approaches. high precision satellite orbit information to terrestrial positioning – allowing various new applications.

BIOGRAPHY

Massimo Piccardi is a Professor of Computer Systems at University of Technology, Sydney. He received a Ph.D. in computer engineering from the University of Bologna, Italy, in 1995. He has been an active researcher in computer vision and pattern recognition for over twenty years to date and has published over 130 papers in these areas. His current research interests focus on time series analysis and graphical models for activity recognition and tracking. He serves as an Associate Editor for journals Machine Vision and Applications and Image and Vision Computing and is a senior member of the IEEE, a member of the IEEE Computer and SMC societies and a member of the IAPR.