



TITOLO PROGETTO

SIMBAD: (Beyond Features) Similarity-Based Pattern Analysis and Recognition

Linea finanziamento: VII FP - FET ICT

Area Scientifico Disciplinare: 01_ Scienze matematiche e informatiche

STRUTTURA (Dipartimento/Centro)

Dipartimento di Informatica

DOCENTE RESPONSABILE SCIENTIFICO

PELILLO Marcello

DATI FINANZIARI

Costo Complessivo del Progetto	Finanziamento Complessivo Assegnato	Costo totale delle attività a Ca' Foscari	Assegnazione Complessiva a Ca' Foscari
2.171.100	1.647.980	400.380	319.940

INIZIO ATTIVITA' (previsione)

2008

FINE ATTIVITA' (previsione)

2011

ABSTRACT PROGETTO

Traditional pattern recognition techniques are centered around the notion of "feature". According to this view, the objects to be classified are represented in terms of properties that are intrinsic to the object itself. Hence, a typical pattern recognition system makes its decisions by simply looking at one or more feature vectors provided as input. The strength of this approach is that it can leverage a wide range of mathematical tools ranging from statistics, to geometry, to optimization.

However, in many real-world applications a feasible feature-based description of objects might be difficult to obtain or inefficient for learning purposes. In these cases, it is often possible to obtain a measure of the (dis)similarity of the objects to be classified, and in some applications the use of dissimilarities (rather than features) makes the problem more viable.

In the last few years, researchers in pattern recognition and machine learning are becoming increasingly aware of the importance of similarity information per se. Indeed, by abandoning the realm of vectorial representations one is confronted with the challenging problem of dealing with (dis)similarities that do not necessarily obey the requirements of a metric. This undermines the very foundations of traditional pattern recognition theories and algorithms, and poses totally new theoretical and computational questions.

In this project we aim at undertaking a thorough study of several aspects of purely similarity-based pattern analysis and recognition methods, from the theoretical, computational, and applicative perspective. We aim at covering a wide range of problems and perspectives.

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SITO INTERNET: <http://simbad-fp7.eu/>