

Caschera Maria Chiara; Ferri Fernando; Grifoni Patrizia, **InteSe: An integrated model for resolving ambiguities in multimodal sentences**, IEEE Transactions on Systems, Man and Cybernetics: Systems, Institute of Electrical and Electronics Engineers, - New York, NY, 2013

Abstract: The pervasiveness of ambiguity in communication processes suggests addressing the problem of semantic and syntactic ambiguities in multimodal interaction languages. This paper presents an integrated model based on layered, hierarchical, and hidden Markov models for dealing with the complex process of multimodal ambiguity resolution. The proposed model consists of different levels, from the terminals of a multimodal language (terminal elements) to the level of multimodal sentences. A software module implemented the model that has been evaluated in terms of accuracy and robustness. The experimental results show good levels of accuracy and robustness compared with other existing approaches.