Volume XXXIX-B2

Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XXXIX-B2, 173-178, 2012
www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XXXIX-B2/173/2012/
doi:10.5194/isprsarchives-XXXIX-B2-173-2012
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A COMPARISON OF SEMANTIC SIMILARITY MODELS IN EVALUATING CONCEPT SIMILARITY

Q. X. Xu and W. Z. Shi
Dept. of LSGI, The Hong Hong Polytechnic University, Hung Hom, Kowloon, Hong Kong

Keywords: Semantic Similarity, Concept Similarity, Geometric Model, Feature Model, Network Model, Transformational Model

Abstract. The semantic similarities are important in concept definition, recognition, categorization, interpretation, and integration. Many semantic similarity models have been established to evaluate semantic similarities of objects or/and concepts. To find out the suitability and performance of different models in evaluating concept similarities, we make a comparison of four main types of models in this paper: the geometric model, the feature model, the network model, and the transformational model. Fundamental principles and main characteristics of these models are introduced and compared firstly. Land use and land cover concepts of NLCD92 are employed as examples in the case study. The results demonstrate that correlations between these models are very high for a possible reason that all these models are designed to simulate the similarity judgement of human mind.

Conference Paper (PDF, 682 KB)

Citation: Xu, Q. X. and Shi, W. Z.: A COMPARISON OF SEMANTIC SIMILARITY MODELS IN EVALUATING CONCEPT SIMILARITY, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XXXIX-B2, 173-178, doi:10.5194/isprsarchives-XXXIX-B2-173-2012, 2012.

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