

Using Web Science to Understand and Enable 21st Century Multidimensional Networks

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Abstract. Recent advances in Web Science provide comprehensive digital traces of social actions, interactions, and transactions. These data provide an unprecedented exploratorium to model the socio-technical motivations for creating, maintaining, dissolving, and reconstituting multidimensional social networks. Multidimensional networks include multiple types of nodes (people, documents, datasets, tags, etc.) and multiple types of relationships (co-authorship, citation, web links, etc). Using examples from research in a wide range of activities such as disaster response, public health and massively multiplayer online games, Contractor will argue that Web Science serves as the foundation for the development of social network theories and methods to help advance our ability to understand and enable multidimensional networks.