Link Prediction in Graphs with Side Information

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Given a partially unobserved graph, network completion methods attempt to infer the structure of unobserved portions of a graph. The standard methods used on network completion problems, such as matrix completion, are often inapplicable (or inaccurate) on many real world social networks owing to their non-uniform sampling of observed edges and/or the presence of isolated vertices. By effectively leveraging side (or auxiliary) information about the vertices, via a novel variation of matrix factorization, accurate predictions can be made. Some results on social networks are provided along with the network completion framework.

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