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Propositions belonging to the PhD dissertation
Analysis of Protein-Protein Interaction Networks by Means of Annotated Graph Mining Algorithms
by Hossein Rahmani, defense scheduled on 30 October 2012

- 1- Many approaches in network analysis explicitly or implicitly rely on the notion of homophily, which states that similar nodes are more likely to be linked together. This is an unnecessary simplification (this thesis, chapter 3).
- 2- The notion of collaborativeness of functions, rather than similarity, is useful for the task of predicting the functions of proteins. The information about which functions collaborate, can be extracted easily from a PPI network, and using that information leads to improved predictive accuracy (this thesis, chapter 3).
- 3- Although the combination of GO-based features and features based on network topology has been considered before, the idea of attributing GO-based features to edges, rather than nodes, substantially improve predictive accuracy (this thesis, chapter 5).
- 4- By considering the relationships among different diseases we can improve the prior knowledge of different diseases and subsequently the final prediction results of analyzer methods (this thesis, chapter 6).
- 5- Talk to biologists needs its own vocabulary.
- 6- The KISS (Keep It Simple Stupid) rule works well in computational biology.
- 7- In submitting a paper to the Bioinformatics conference/journal, proving the biological meaningfulness of results is as important as the numerical improvement over the previous methods.
- 8- With enough sleep and good food you do not need a physician.
- 9- A little bit of stress is useful for having a more productive life.
- 10- Life has no Ctrl+Z, so seize the Day!