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## Novel techniques of computational intelligence for analysis of astronomical structures

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# Stellingen

behorende bij het proefschrift

## Novel techniques of computational intelligence, for analysis of astronomical structures

van

Mohammad Mohammadi

1. The simplicity of graphs makes it a good way to represent manifolds, and it opens the possibility of using many tools that are created for graphs.
2. Due to parallelizability, random walk is an efficient way to reveal the underlying structures in non-Euclidean spaces, such as graphs and manifolds.
3. Natural phenomena are good sources to find solutions for complex problems.
4. Ant colony is about an ensemble of several weak learners (i.e. ants equipped with PCA) who cooperate to solve a problem, and their collective behavior form an intelligence.
5. Alone we can do so little; together we can do so much.

- Helen Keller

6. Accuracy can easily deceive people since it does not take into account class imbalance.
7. An outlier is an observation that deviates so much from other observations as to arouse suspicion that it was generated by a different mechanism.

- Stephen William Hawking

8. Interpretable models provide us both competitive performance and decision-making logic.