



BA/SA:

Improving Byzantine Agreement

Consensus is one of the most fundamental problems in distributed computing; an informal description is as follows: A set of n nodes start with an individual value, and from that starting point they need to agree on a single value. If there are no failures, Consensus can be solved easily, and even for crash failures there are many known results.

The byzantine agreement (BA) problem has the same requirements as Consensus, however, the system must tolerate up to t byzantine nodes. Byzantine nodes are malicious and can behave arbitrarily.

BA algorithms can be implemented in many communication models, e.g. synchronous, asynchronous or self-stabilizing. In this thesis you would focus on one of the models and look into general formulations of BA. Your task would be to develop new algorithms for these models and analyze their running time. Some work has already been done by the group which can serve as a starting point for your thesis.



Interested? If you are interested in developing better algorithms and/or improving the representation technique of algorithms in distributed computing, we are happy to hear from you and to have a small chat.

Requirements:

- Interest in theory of computer science.

Contacts

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