Impacting Other Reasoning Paradigms

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In my Masters thesis, I developed an algorithmic framework to fertilize boolean reasoning with an efficient feature of Constraint Programming named *global constraints* [1]. This research experience made me interested in fertilizing one reasoning paradigm with techniques developed in another.

Boolean reasoning has a central importance in automated reasoning in the sense that the techniques developed for boolean solvers make up the backbone of software systems in many other important reasoning paradigms, such as SAT Modulo Theory, Constraint Satisfaction Problems, Answer Set Programming, and Maximum Satisfiability. Hence techniques developed for boolean reasoning could have bottom-up impact in the whole area of automated reasoning, if transferred to other reasoning paradigms. In the future, I plan to transfer the techniques that I have developed so far for boolean reasoning to the other automated reasoning paradigms mentioned above. I believe that some of the techniques also have the potential to push the envelope in these paradigms.

References

[1] Md Solimul Chowdhury and Jia-Huai You. SAT with global constraints. In *ICTAI-2012*, pages 73–80.