

A Generator of Geometry Deductive Database Method Provers

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Abstract. The Geometry Automated-Theorem-Provers (GATP) based on the deductive database method, use a data-based search strategy to improve the efficiency of forward chaining. An implementation of such a method is expected to be able to efficiently prove a large set of geometric conjectures, producing readable proofs. The number of conjectures a given implementation can prove will depend on the set of inference rules chosen. Natural language and visual renderings of the proofs are made possible by the use of a synthetic forward-chaining method. In the original approach, the method and the corresponding implementation had the axioms and rules of inference hard-coded. In our implementation, the *OGP-GDDM* Prover, we used an approach based in an *SQL* database library and an in-memory database to allow a more flexible approach to re-implementations of the provers whenever a different set of axioms and rules of inference is needed. The *Provers-Generator for the Geometric Deductive Databases Method* (*PG* for short) is the next natural step. The *PG* is a program that, given a set of rules, generates a prover, an *OGP-GDDM*-prover, for that specific set of rules. The applications in areas such as education are very important given the possibility, opened by the *PG*, of having a prover, capable of producing readable proofs, adapted to a specific audience.