

AProVE

... primarily a (non-)termination and complexity bounds prover, but also ...

- SMT-LIB 2 front-end for QF_NIA
- use bit-blasting for binary arithmetic, back-end: MiniSat
- fixed bit-length for unknowns
- bit-length for constants, sums, products etc. **as needed**
- details on SAT encoding:
[Fuhs, Giesl, Middeldorp, Schneider-Kamp, Thiemann, Zankl, SAT '07]
- back-end for proof techniques for termination and complexity bounds, search space & time-out fixed in “tactics”
- approach for SMT-COMP
 - start with small search space
 - **if** MiniSat says **satisfiable**: return with model
 - **else**: retry with larger search space until satisfiable (or out of resources)