

DIVINE: Explicit-State LTL Model Checker

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- explicit-state model checking of parallel programs
- using LLVM as an intermediate language
- standard C, C++, and pthread libraries nearly completely supported
- exact verification, no bounding, all meaningful interleavings
- supports all language features (including exceptions)
- no symbolic data support (yet)



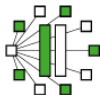
- assertion safety
- memory safety
- memory leaks
- mutex safety
- uninitialized memory use
- LTL
- gives a counterexample if the property does not hold



- state space size reduction ($\tau+$ reduction)
 - omission of uninteresting interleavings
- memory footprint reduction (lossless compression)
- parallel and distributed search

- a powerful explicit-state model checker for C++ programs
- specializes on unit tests of real-world parallel programs
- verifies large scale of properties
- got 951 points out of 1240 in concurrency category
- <https://divine.fi.muni.cz>

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Thank you!