CPAchecker

A Tool for Configurable Program Analysis

SoSy-Lab Software Systems

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

Daniel Baier, Dirk Beyer, Po-Chun Chien, Marek Jankola, Matthias Kettl, Nian-Ze Lee,
Thomas Lemberger, Marian Lingsch-Rosenfeld, Martin Spiessl, Henrik Wachowitz, and Philipp Wendler

CPAchecker

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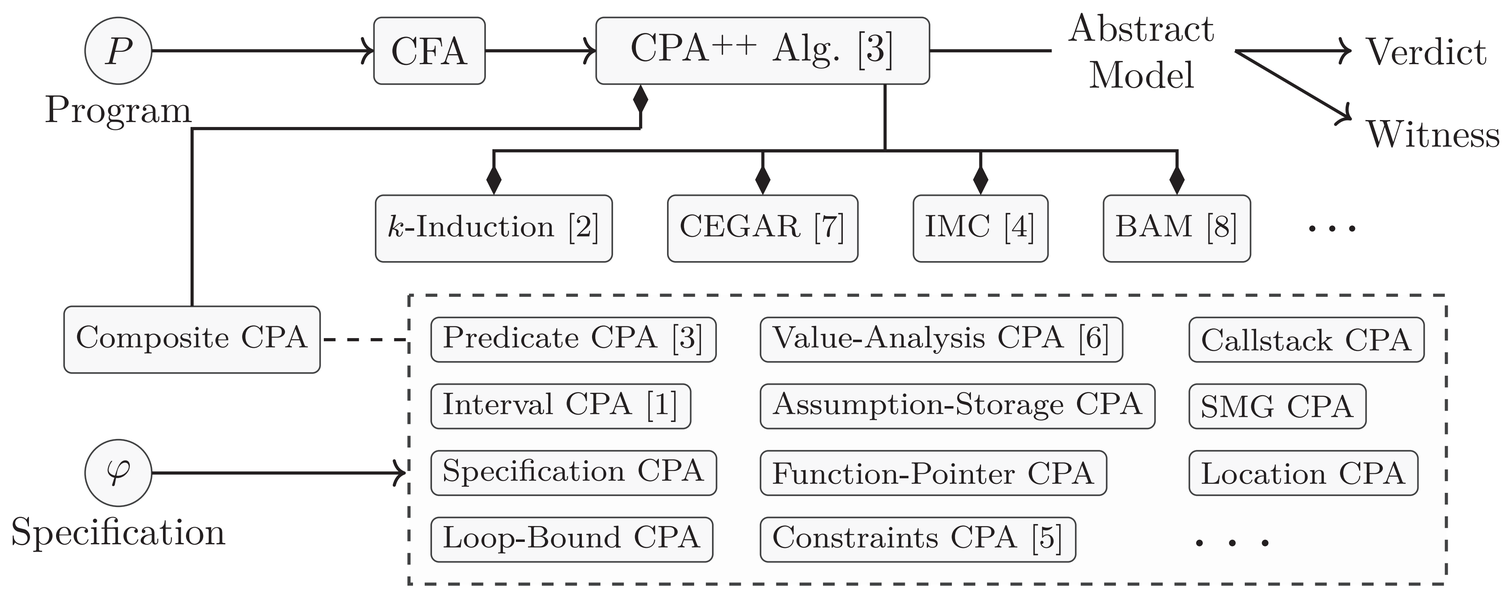
CPAchecker is a modern and versatile framework for building software-verification analyses from well-known concepts that match the user's requirements.

cpachecker.sosy-lab.org

Overview



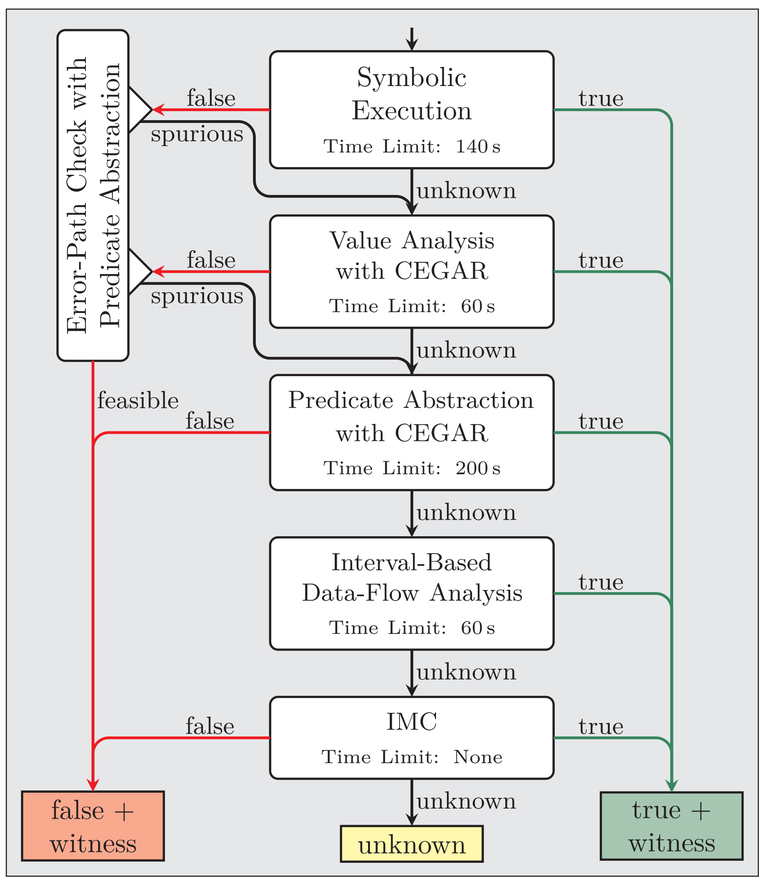
Competition Contribution

"CPAchecker 2.3 with Strategy Selection" is our latest paper describing new developments and configurations used in SV-COMP 2024.

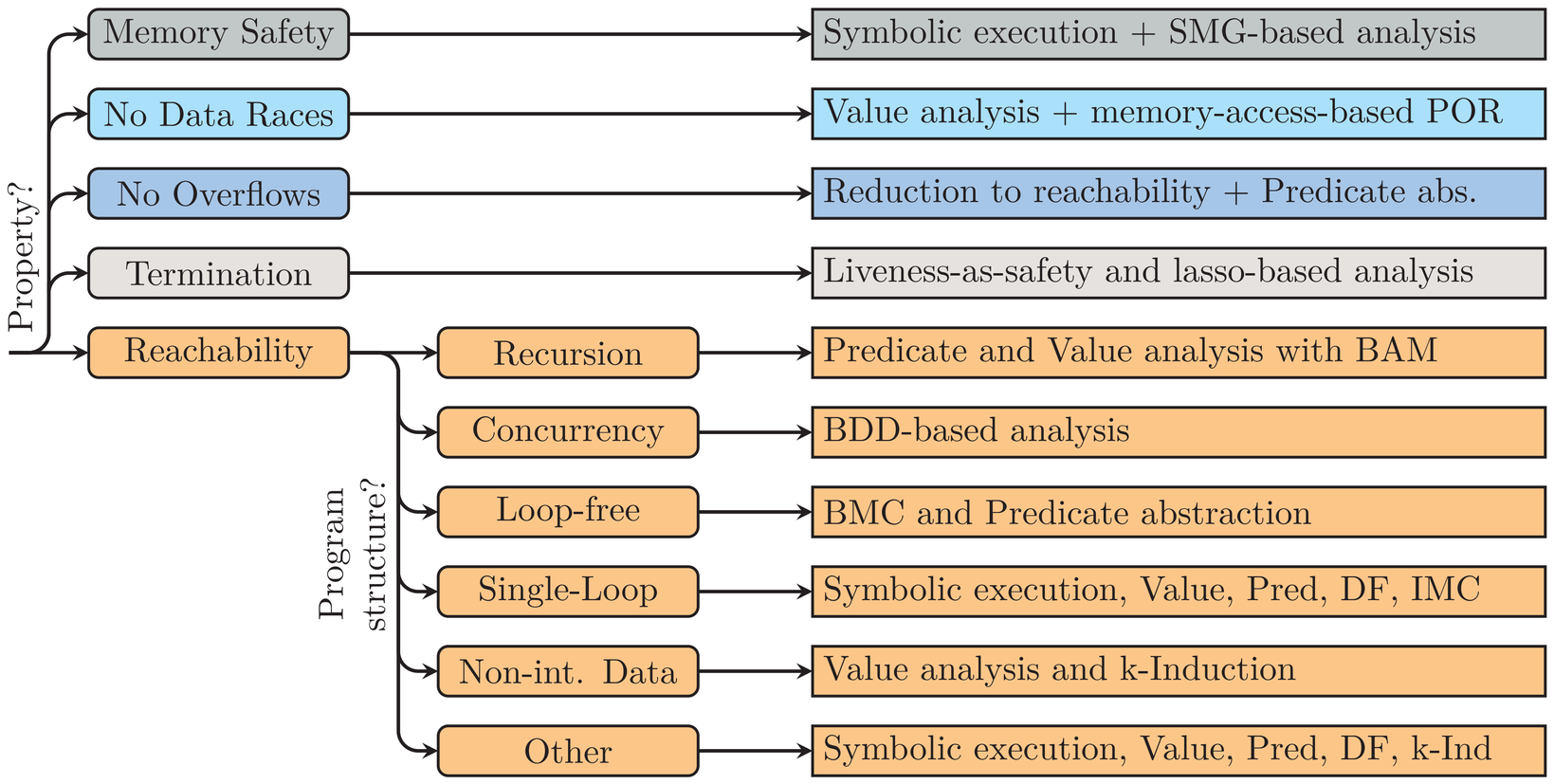
- Utilize strategy selection to predict a sequential portfolio of analyses
- Support all properties and categories of C programs
- 1st place in category *FalsificationOverall*
- 2nd place in category *Overall*
- 3rd place in category *ReachSafety*
- 17 968 validated results in total (the most among all participants)
- Only 17 wrong results (0.06 % of all tasks)
- New and improved analyses for:
  - Reachability
  - Memory safety
  - Termination
  - Overflows
  - Data races

Paper available here

Config for Reachability Single-Loop

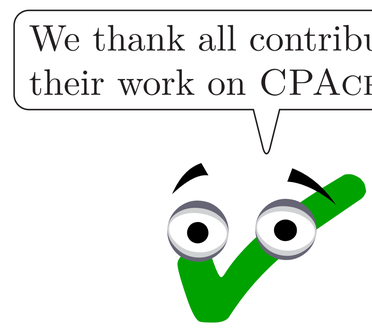


Verification Strategy for SV-COMP 2024



Contributors

CPAchecker is an open-source project, mainly developed by the Software and Computational Systems Lab at LMU Munich, and is used and extended by international associates from U Passau, U Oldenburg, U Paderborn, ISP RAS, TU Prague, TU Vienna, TU Darmstadt, and VERIMAG in Grenoble, along with several other universities and institutes.



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