



# Advance



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## Memory Safety Analyzer for C

### Features

- Mathematically examines all program instructions for potential violations of memory safety properties in C language programs
- Modular, parallelizable, whole-program static analysis

### Differentiators

- Captures memory safety conditions as primary proof obligations based on the C language semantics; locally discharges some of these using abstract interpretation and delegates others to the function API, creating supporting proof obligations in the calling functions.
- Provides over-approximation on variable values and relationships at *each* location in the program that hold for *all* program behaviors
- Provides evidence for all closed proof obligations and guidance for open proof obligations on additional information needed or ways to change the program to facilitate analysis
- Produces XML results for reporting integration

### Applications

- Verification testing and evidence generation
- Independent verification and validation
- Regression testing and API compliance

