

# Test Case Generation by Grammar-based Fuzzing for Model-driven Engineering\*

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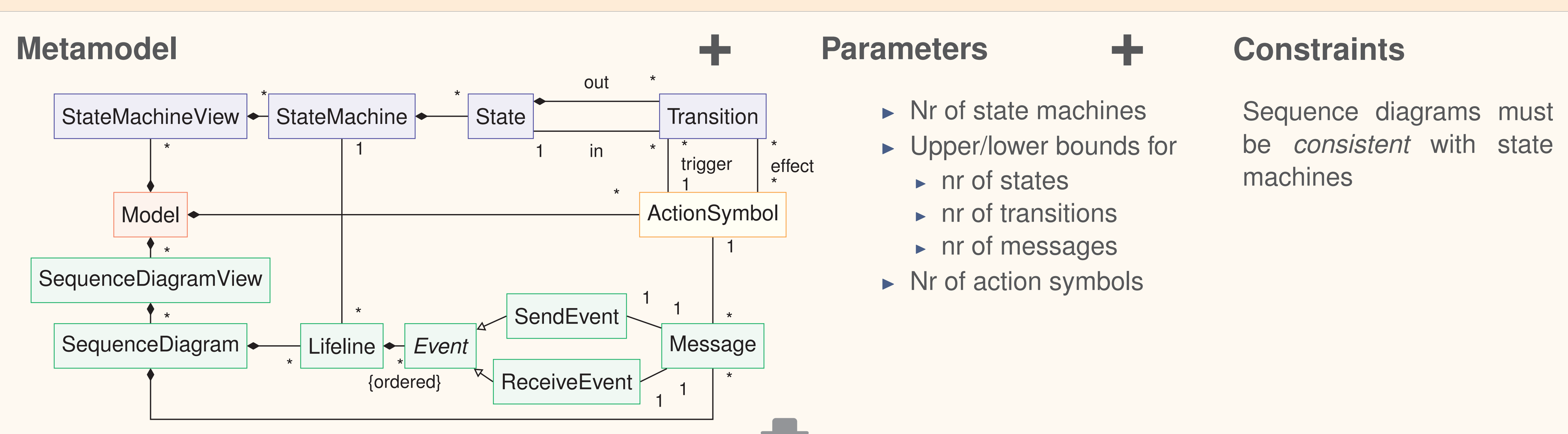
## Motivation

Tools that support Model-driven Engineering are difficult to test due to lack of test cases  
Test cases usually consist of software models

## RAMOGE

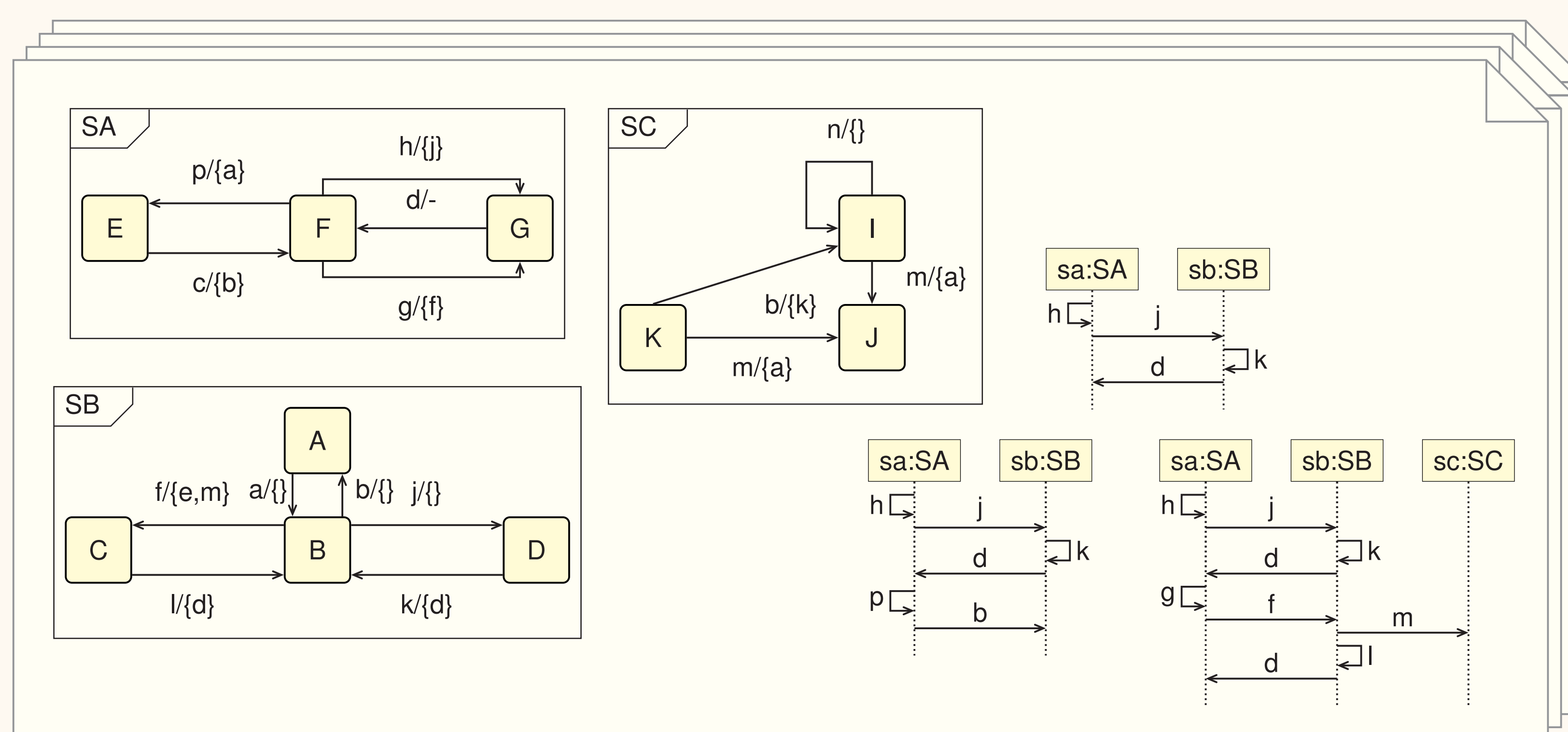
Generates random software models based on a UML metamodel (grammar) and a set of constraints

## Application Scenario



**RAMOGE**

## Random Test Instances for Sequence Diagram Merger



## Evaluation

Testing the Sequence Diagram Merger

- ▶ Detection of performance bottlenecks
- ▶ Error detected in underlying algorithm
- ▶ Bugs couldn't be found by using manually created instances

## Future

- ▶ Integration into fuzz testing framework
- ▶ Interface to define constraints
- ▶ Integration of other UML diagrams

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