

Trace to Specification Distance

Motivation

When a system does not satisfy its specification, a model checker returns a trace of the system that does not satisfy the specification. We want to measure how far the counter example trace is from the specification. This should help the system developer to find the problem in the system.

Project description

- Goals
 - Efficient encoding of all possible edits (change, skip, insert)
 - Implementation
- Tasks
 - Understand Theory
 - Temporal Logic
 - Bounded Model Checking
 - SAT encoding
 - Develop Encoding
 - Implement
 - implement encoding
 - test, evaluate tests

Literature

- E. Clarke, A. Biere, R. Raimi, and Y. Zhu, Bounded Model Checking Using Satisfiability Solving.

Deliverables

- Documentation
- Code
- Presentation (10 .ppt slides)

Project schedule

- Start Immediately
- Month 1 Reading, understand theory
- Month 2 Develop Encoding
- Month 3 Implement

Master Project

Studies: INF SEW TEL Tech. Math.

Prerequisites

- interest in Theory

Advisor / contact

Roderick.Bloem@iaik.tugraz.at

Joint Project with IBM Haifa