



## Software Architecture for an Automata Library

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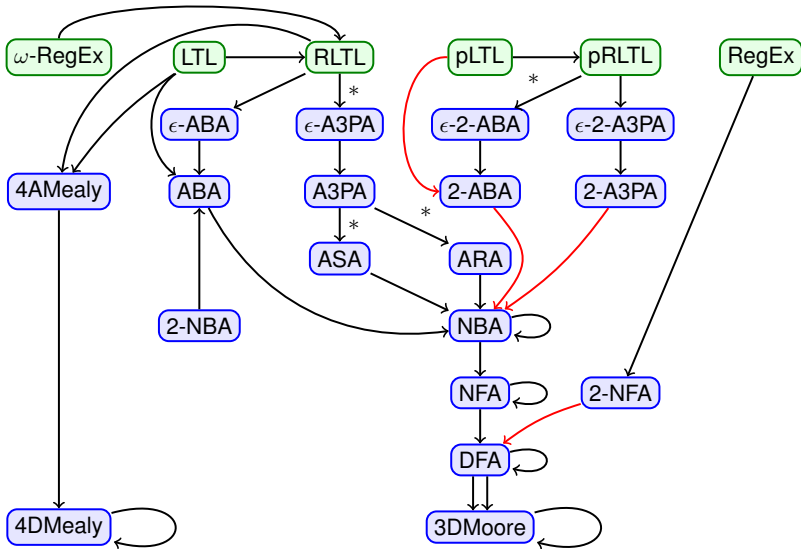
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## LamaConv

- ▶ Übersetzung von Temporallogiken in Monitore
- ▶ Repräsentation der Zwischenprodukte
- ▶ Automaten-Framework
  - ▶ Einlesen und Ausgeben
  - ▶ Simulieren
  - ▶ Umwandeln
- ▶ Sprachen: ptLTL, ptRTL, (R)SALT,  $\omega$ -RE
- ▶ Monitore: LTL<sub>3</sub> und FLTL<sub>4</sub>
- ▶ Verwendung: Library, Command Line App, Webservice & Webapp

# LamaConv: Umwandlungen



## LamaConv: Weitere Arbeiten

- ▶ symbolic automata
  - ▶ more efficient from formula to automaton
  - ▶ no more power set construction on  $\Sigma$
- ▶ logics with past and 2-way automata
  - ▶ ptLTL, ptRTL
  - ▶ 2-APA, 2-ABA, ...
- ▶ RSALT
  - ▶ combines SALT with RTL
  - ▶ full-blown RegEx support
  - ▶ Reset vs. Abort (R)LTL

# Runtime Verification Teaching Tool

The screenshot shows the 'Runtime Verification Teaching Tool' web interface. At the top, there is a browser address bar with the URL 'http://isp.uni-luebeck.de/rvtt'. Below the address bar, there is an 'Input' text area containing the text 'Alphabet??? Proposition, Events ???'. To the right of the input area is a yellow sticky note with the text 'Automatenauswahl + Pfad'. Below the input area, there is a 'Format:' label with a dropdown menu set to 'LTL', a toggle switch, and a 'Conv' button. Below the format controls, there is a 'Simulate:' label with a text input containing '(p)(p,q){!(r;p)}'. To the right of the simulate input is a yellow sticky note with the text: '- bisher simuliertes Prefix hervorgehoben' and '- Möglichkeit unsimulierten Teil zu ändern'. Below the simulate input are three navigation buttons: a double left arrow, a single left arrow, and a double right arrow. To the right of these buttons is another yellow sticky note with the text: '- Links in Fensterkopf öffnen Fenster für neuen Automaten, oder wenn schon existiert, bringen Focus darauf.' and '- ... kopiert Automatenpezifikation ins Eingabefeld und öffnet dabei (wahrscheinlich) einen neuen Tab'. Below the navigation buttons, there are three window panes. The top-left pane has a title bar 'LTL -> ABA -> NBA -> \_' and is empty. The top-right pane has a title bar '-LTL -> -ABA -> -NBA -> \_' and is empty. The bottom-left pane has a title bar 'LTL -> ABAs -> NBAs -> NFAs -> DFAs -> 3dMoore' and is empty. To the right of the panes is a yellow sticky note with the text: '- weitere Automaten-Ansichten' and '- ...'. The interface also features a search bar in the top right corner and a home button in the top left corner.

# Software Architecture for an Automata Library

Das Projekt kann in folgenden Modulen bearbeitet werden:

- ▶ CS4590(SJ14) – Projektpraktikum SSE
- ▶ CS5198 – Projektpraktikum Programmierung

Betreuung durch

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