Kirill E Bogdanov

15:35

The purpose of patterns is to validate mergers

this means that if a pattern is sometimes satisfied and other times it is violated such as with rejects where there should be an accept according to a pattern

then we cannot tell using this pattern whether a merger is correct or not

Kirill E Bogdanov

15:36

hence we might

hence we would like to leam patterns that are universally true in the automaton

even if they have a precondition

(which can be learnt)

When we merge, we would like the number of times a patter

is satisfied to increase

and hopefully not get violations of patterns

Kirill E Bogdanov

15:37

where a precondition is satisfied or violated.

where a precondition is satisfied and the pattern is violated.

How to determine how to weight a pattern:

Kirill E Bogdanov

15:38

compute the number of times it is satisfied

and multiply it by the 'length' of the pattern

which means that complex patterns that are satisfied would be given greater weight

Merging creates loops

Kirill E Bogdanov

15:40

hence a pattern that is satisfied across a loop is effectly satisfied infinitely many times

hence could be given a greater weight if we believe it to be true

or what is more important, if we violate a pattern by creating a violating loop

then the merger that created such a loop is probably wrong

Kirill E Bogdanov

15:41

every time we see a good thing such as true patterns being used more often

we increase the merge score

and if we see violating patterns, we reduce merge score which could make it negative

in which case we do not merge the corresponding states

Kirill E Bogdanov

15:44

In terms of active inference, you could learn paterns from existing traces

and then query continuations of those traces to check whether paterns match ornot

this is what QSM does but for simple traces

adn extending it to pattens would seem like a natural thing to do

Kirill E Bogdanov

15:45

what is significant about pattens: real systems have a large alphabet

hence a couple of 'key' events are likely to be part of a subsystem

and we are likely to see this part used a number of times.

Donghwan Shin d.shin@sheffield.ac.uk

Kirill E Bogdanov

15:46

published a paper on learning automata

Kirill E Bogdanov

15:47

where traces are split between components and component are learnt separately

Kirill E Bogdanov

15:52

A merge that mostly falls into existing structure

could be considered beneficial and thus given a higher score

very might like where Sicco was blocking mergers

that introduce new transitions

and I was simply penalising those mergers.

Kirill E Bogdanov

15:57

A frequent pattern that is violated is a bigger problem than an infrequent pattern

Kirill E Bogdanov

15:59

Patterns have placeholder variables

and satisfaction corresponds to mapping those variables to actual events

so that a patern is true

difference instances of these patterns

corresponding to different mappings of events

are effectively separate instances

for the purpose of scoring or computing violations

send

Send message

Checking who can access file

16:03

Arwa