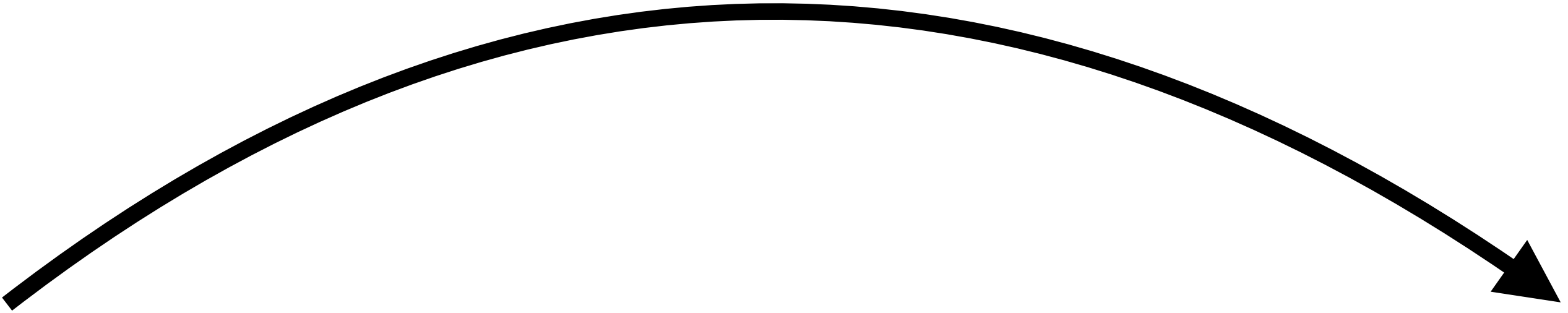
Joint Inference of RMs & Policy

Hypothesis
Specification φ

Reward Machine

RM_{φ}

Learn a policy for φ



gather counter-examples!

1. Z. Xu, I. Gavran, Y. Ahmad, R. Majumdar, D. Neider,U. Topcu, B. Wu (ICAPS'20): Joint Inference of Reward Machines and Policies for Reinforcement Learning

Specification Inference

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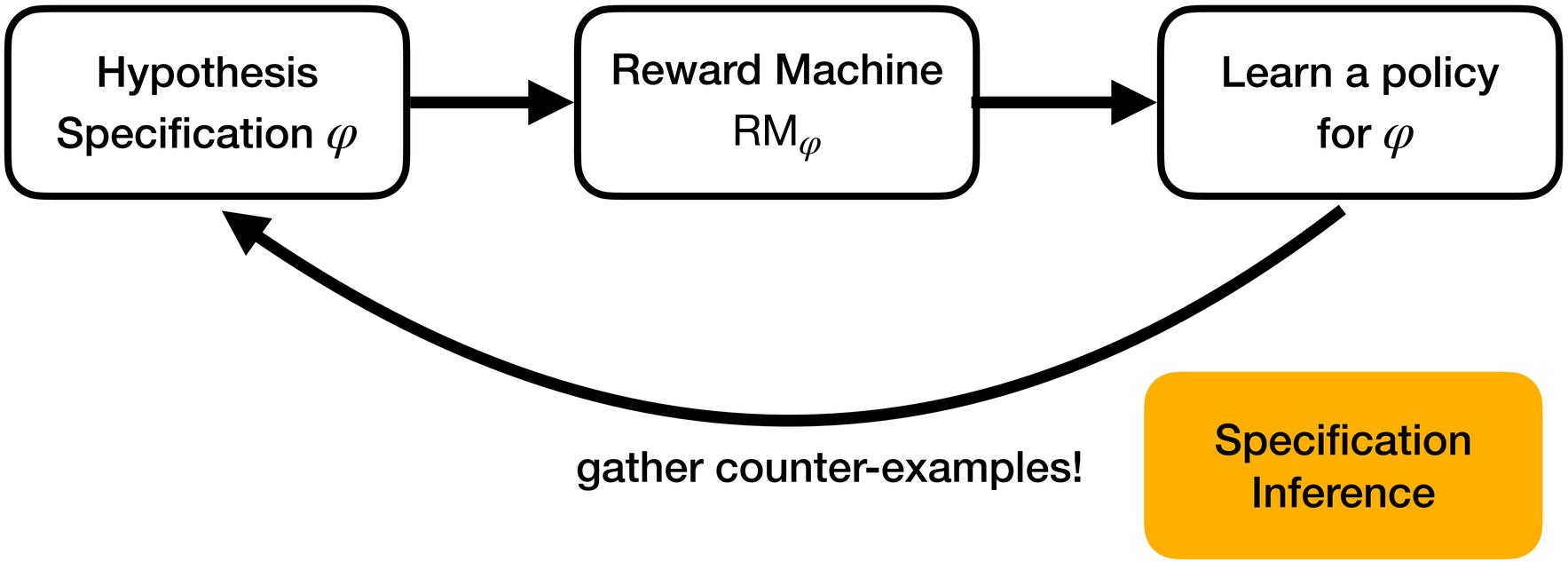
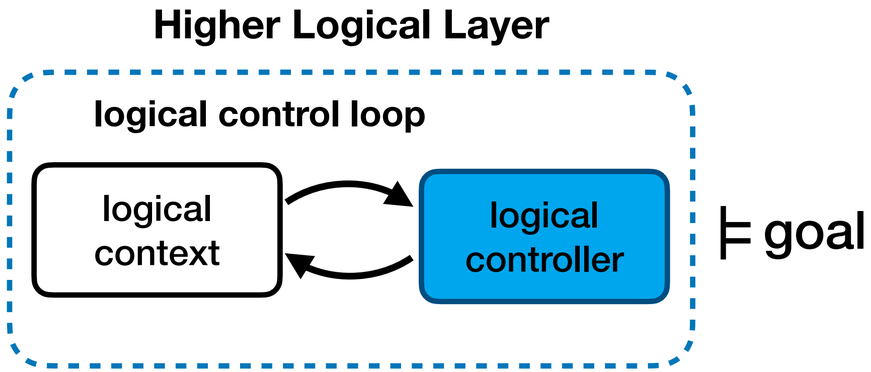
Joint Inference of RMs & Policy



1. Z. Xu, I. Gavran, Y. Ahmad, R. Majumdar, D. Neider,U. Topcu, B. Wu (ICAPS'20): Joint Inference of Reward Machines and Policies for Reinforcement Learning

Conclusion



https://ritamraha.github.io

Specification (Inference)

- (TACAS'22) LTL Learning
- (JOSS'24) SCARLET
- (VMCAI'24) MTL Learning

Verification

- (CSL'22) Synthesis for One-Counter Automata
- (MFCS'23) Parikh One-Counter Automata
- (RP'23) Competitive Analysis of MPC

(Adaptive) Reactive Synthesis

- (Under review) Quantitative Strategy Templates
- (FoSSaCS'25) Fair Quantitative Games
- (GandALF'19) Energy Reachability Games
- (Under review) ω-regular dynamic shielding