Formal Methods

Higher Logical Layer

logical control loop

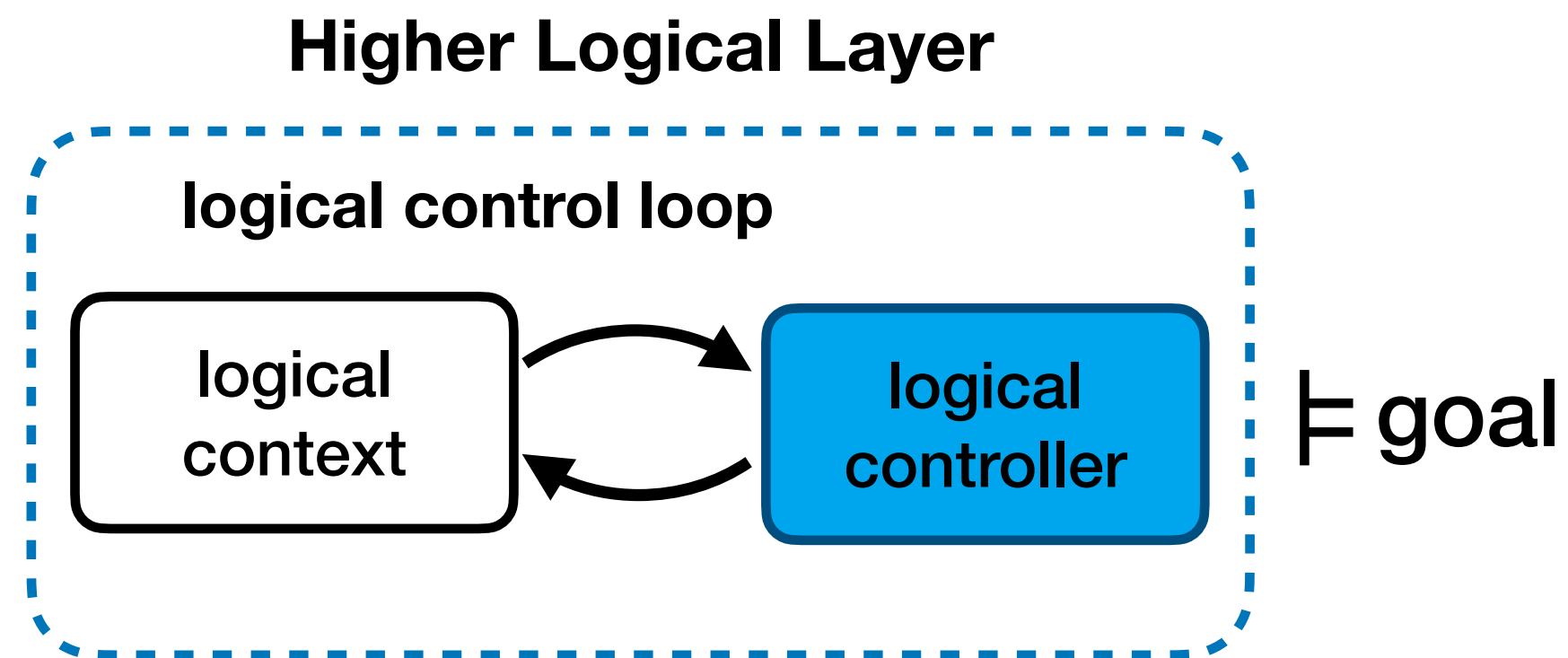logical context ⇄ logical controller $\models$ goal

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

Artificial Intelligence: Data-driven Approaches

Higher Logical Layer

logical control loop

logical context → logical controller

physical control loop

physical condition → physical controller

Lower Physical Layer

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