

# Case-based Policy Inference (CBPI)

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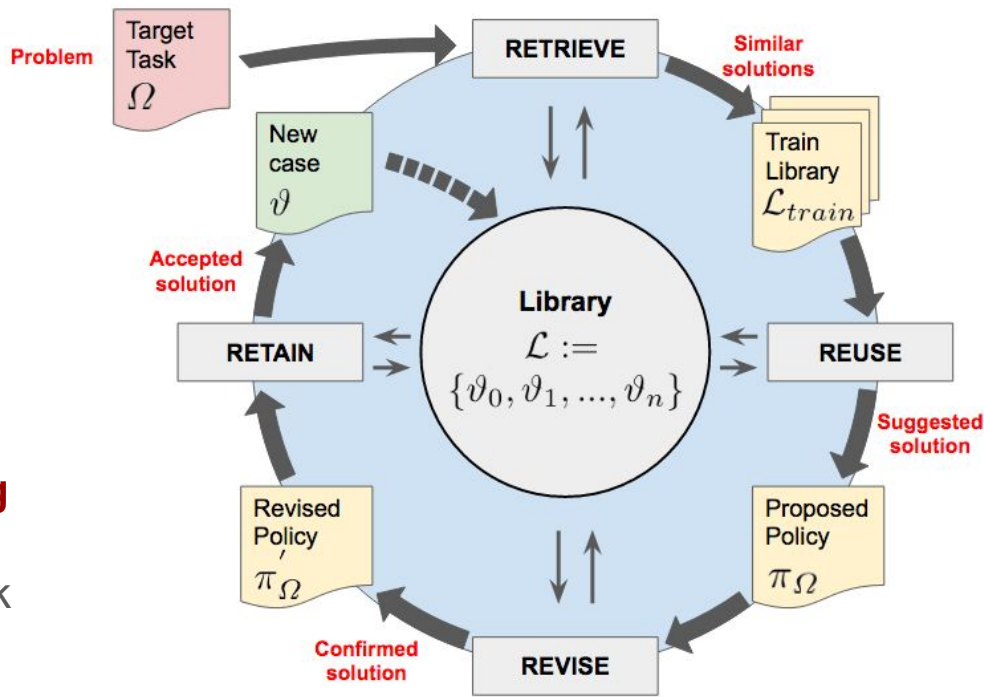
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## Core techniques

- Reinforcement Learning (RL) offers good **solutions for individual tasks**
- Case-based Reasoning (CBR) describes a methodology to **reuse existing knowledge** in a general manner

## Contributions

- Formulation of **CBR methodology using RL terminology**
- CBPI algorithm** based on this framework



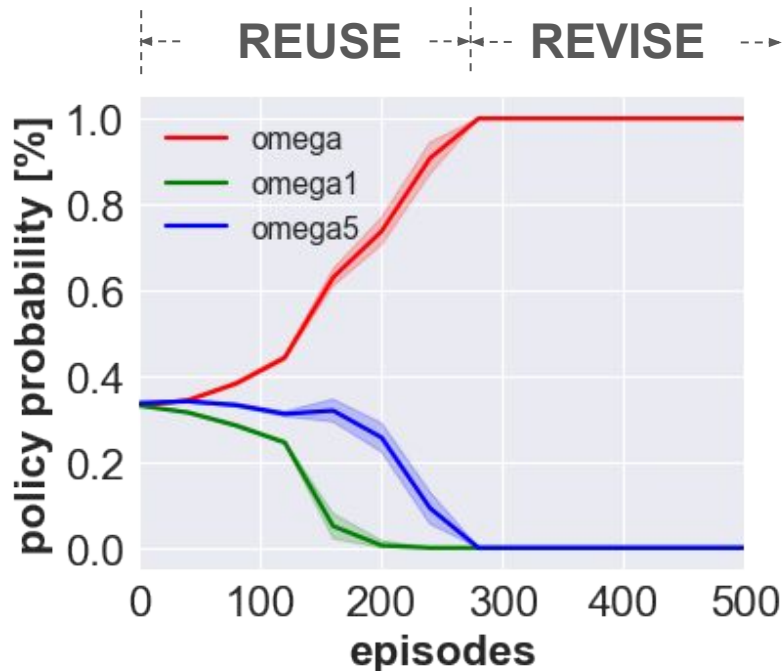
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## Case-based Policy Inference

- Uses only policies from similar tasks
- **dynamically selects and blends policies** according to their usefulness for the current target task
- **progressively switches the control** to the new policy

- Learns core policies of a domain
- Robust against negative transfer



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## Experiments

- Learn a new policy
    - **Advantageous a priori knowledge**
    - Disadvantageous a priori knowledge
  - Building a library of core policies
- **Improves performance** compared to Q-Learning and Probabilistic Policy Reuse

