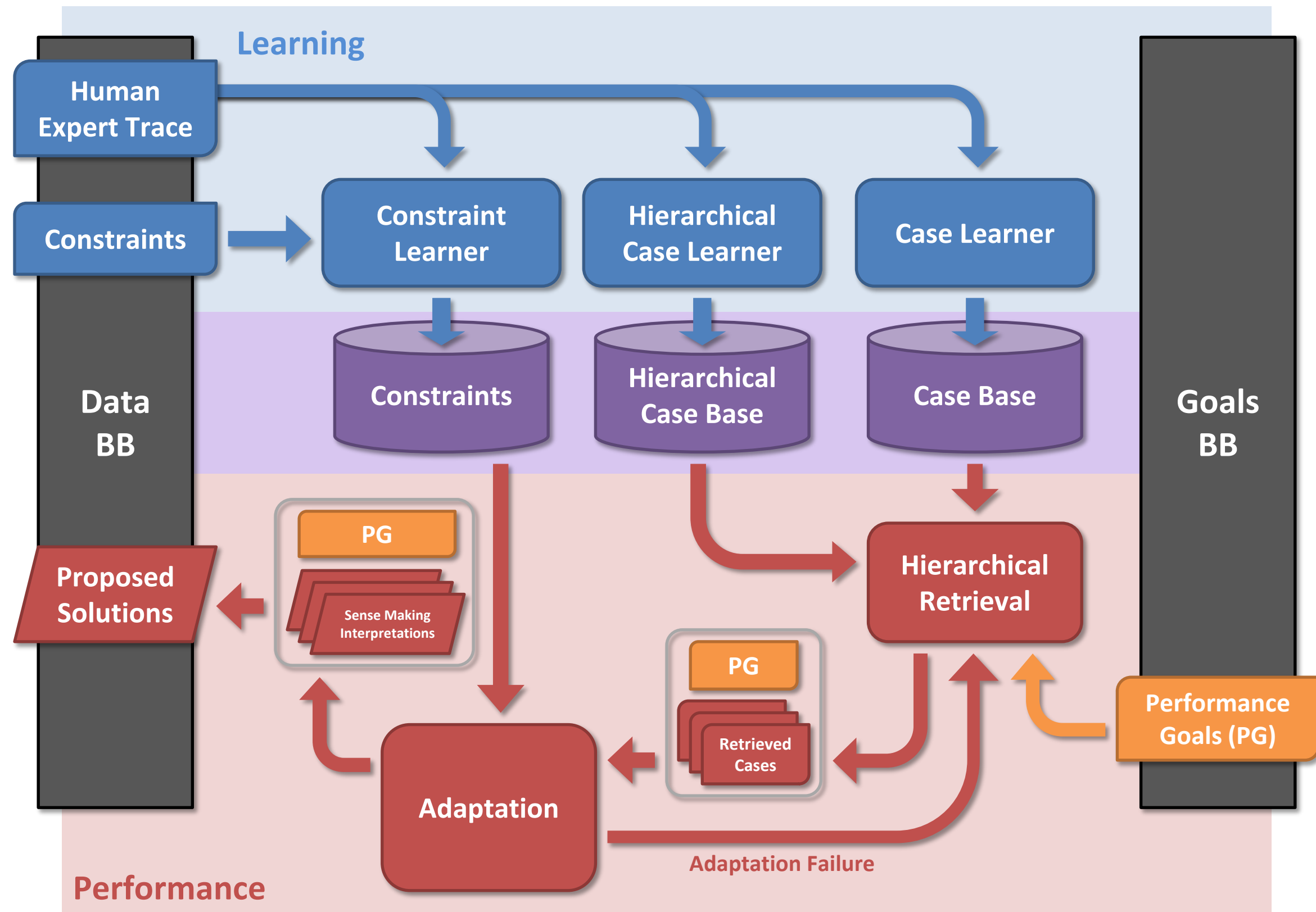


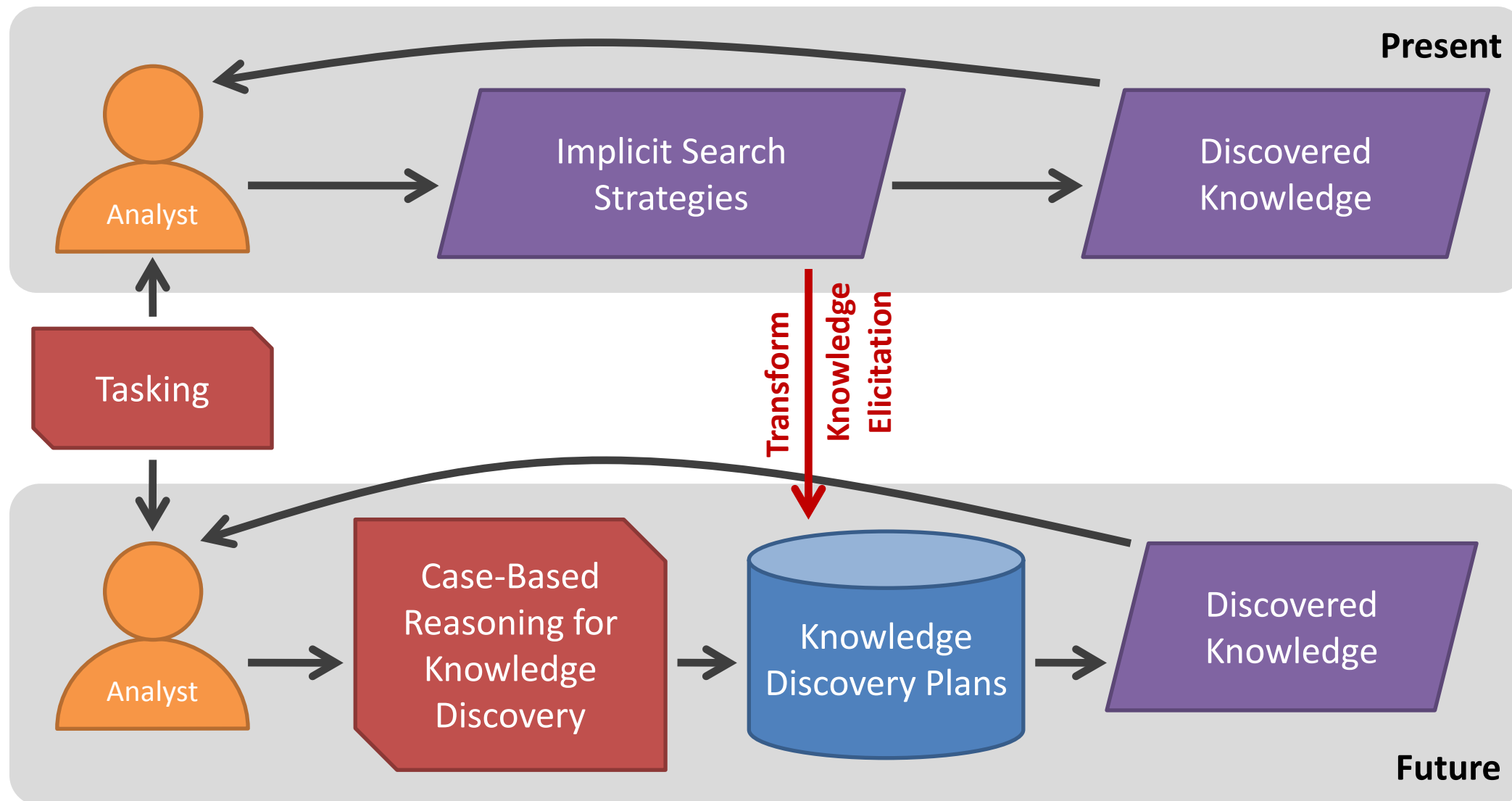
Research Areas of Interest

Qualifications and Capabilities



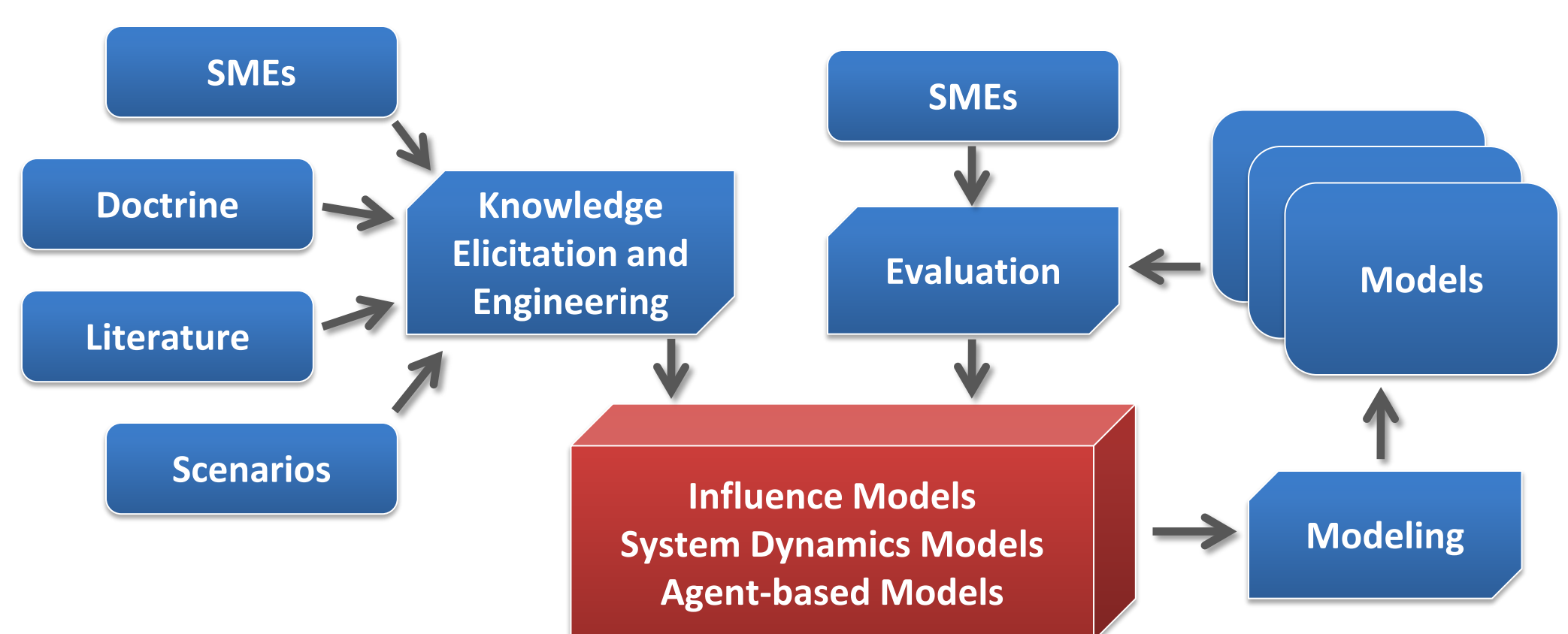
DARPA Integrated Learning Project

GTRI collaborated with a large team of researchers on the DARPA Integrated Learning project, which had as its goal to research the integration of multiple machine learning paradigms to learn to solve a problem by observing an expert in a single problem-solving session. GTRI, collaborating with the Georgia Tech College of Computing, developed a case-based learner & reasoner to perform as part of the integrated learning activity.

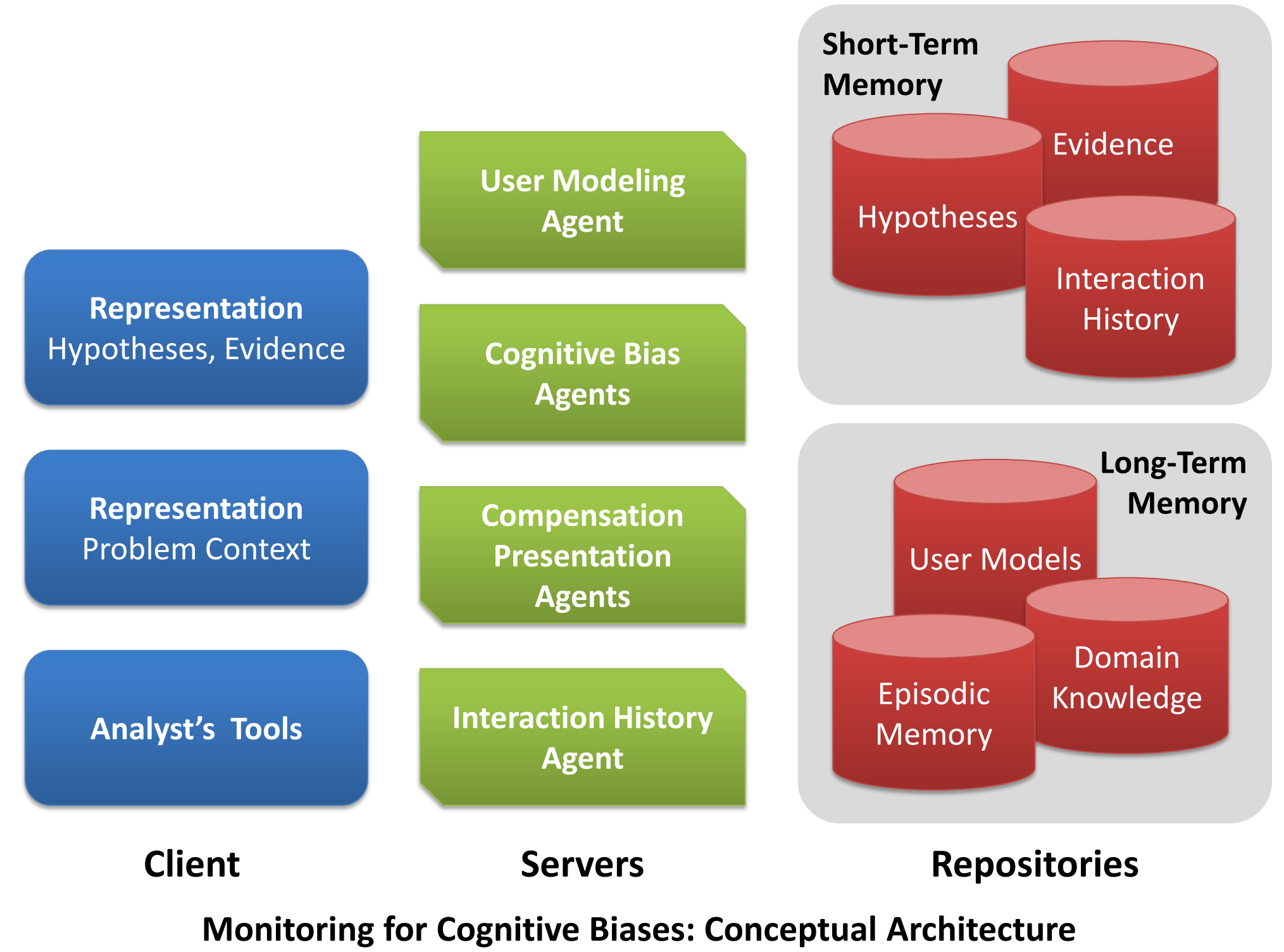


Case-based Reasoning for Knowledge Discovery

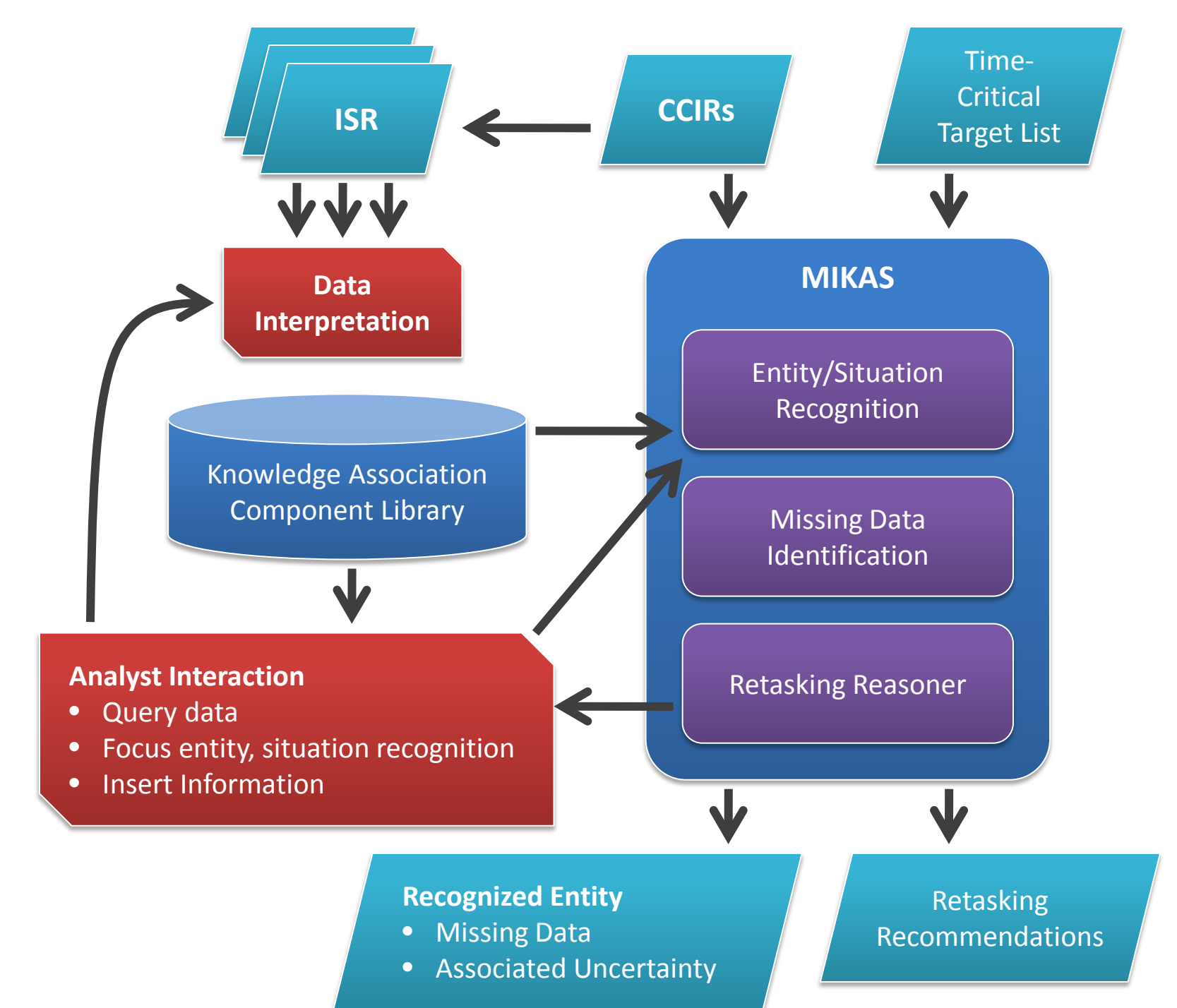
GTRI investigated analytic strategies used in the process of discovering new knowledge, as part of the ARDA/DTO Novel Intelligence from Massive Data (NIMD) program. We designed and prototyped a software tool for intelligence analysts that uses case-based reasoning and case-based planning to plan and execute complex interdependent Internet searches to aid analysts in discovering information relevant to a tasking. Our case-based reasoning approach represents best-practice analytic strategies in the form of domain specific search plans which are stored in a case library. The prototype matches an analyst's current problem with the most similar problem in the case library and adapts the associated search plan to solve the current problem.



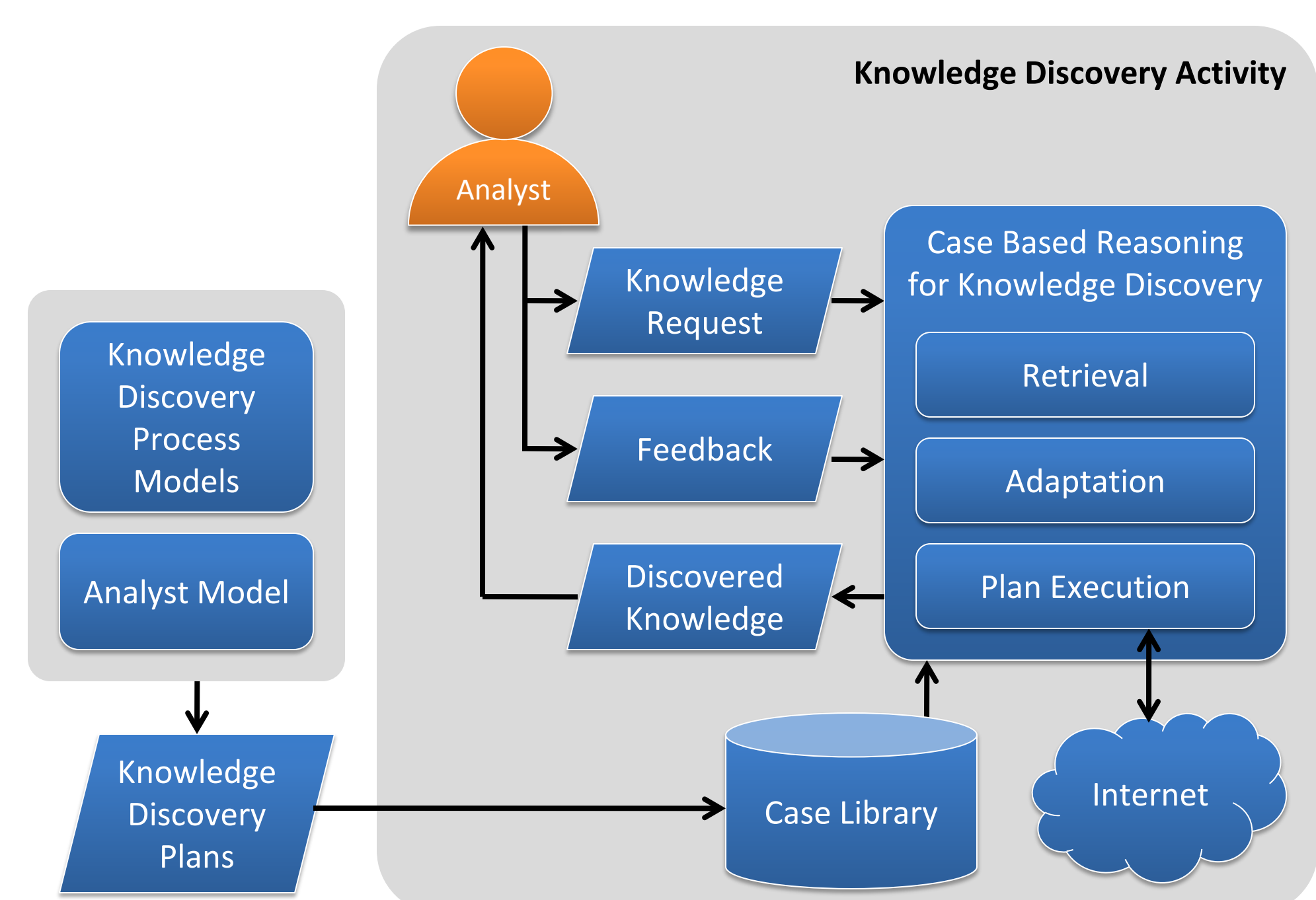
Cognitive and Behavioral Modeling Process (applied in several projects including ONR HSCB)



Monitoring for Cognitive Biases: Conceptual Architecture



Multi-Intelligence Knowledge Association System



Case-Based Reasoning for Knowledge Discovery (CBR for KD) Capabilities Cases

- Does the organization possess the technical capabilities?
- Does the organization have access to the raw materials?
- What manufacturing resources are available?
- Who are the experts in this area?
- Who have the experts collaborated with and what are their capabilities?
- What publications and education exist in this area?

The GTRI team will supply knowledge-based reasoning, knowledge discovery, information search, behavioral modeling and machine learning to a team with expertise in multi-language extraction, market dynamics and time-dependent reasoning.

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