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 independent 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.

We would like to provide cognitive and behavioral modeling, AI reasoning and sense-making, machine learning and representation to a group with neuroscience expertise.