Ontology, Rules, and Logic Programming for Reasoning and Applications (RulesReasoningLP):

Mini-Series Planning Session
July 25, 2013

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Agenda

- This is a planning session for the upcoming mini-series:

  - Ontology, Rules, and Logic Programming for Reasoning and Applications (**RulesReasoningLP**)

- Prospective Topics

- Selected Goals

- Speakers

- Discussion and Plan

Prospective Topics 1

- Ontology-Rule Standards containing Horn Logic (Pure Prolog):
  - Rule Interchange Format, RuleML, and Common Logic
- Ontology and Rule Reasoning Tools, Systems: Requirements, Design, Implementation:
  - Semantic Web and Description Logic-based systems
  - First-Order Logic systems
  - Logic Programming systems, and Hybrid Semantic Web + Logic Programming (Description Logic Programming) systems
  - Example Tools and Technologies:
    - Cyc, Pellet, Jena, Prover9, Vampire, SILK and RuleLog, various Prologs such as SWI-Prolog, XSB Prolog, Ciao Prolog, Flora-2, Answer Set Programming, Constraint Logic Programming, Deductive Databases, SAT and SMT reasoners, expert/decision-support systems, business rule systems, etc.
  - Deductive, Inductive, Abductive, Probabilistic, etc., reasoning

Prospective Topics 2

- Ontology and Rule Reasoning Optimization:
  - Knowledge Compilation from Development Time Ontologies and Rules to Run-Time Reasoning, Tabling, Memo-izing, Extensionalizing, Delayed/Lazy Evaluation, Type Subsumption Encodings, etc.

- Ontology and Rule Reasoning Applications (ref. recent talks by Dr. Benjamin Grosof and Dr. Vinay Chaudhri)

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Selected Goals

1) Sketch out the current field of ontology and rule reasoning: what are the relevant standards, architectures, reasoning methods, reasoning engines, techniques, and applications

2) What are emerging technologies, techniques, and tools relevant for ontology and rule reasoning?

3) What are the issues and architectures involved in developing applications that use ontology and rule reasoning?

4) Describe visualization and explanation technologies and techniques for ontology and rule reasoning

Speakers

- Dr. BenjaminGrosof (Benjamin Grosof & Associates; Coherent Knowledge Systems) - "RuleLog and Reasoning Applications"

- Dr. HaroldBoley (RuleML) - "RuleML Technology for Rules and Reasoning"

- Dr. JohnSowa (Vivomind Intelligence) - "Relating Classical and Nonmonotonic Reasoning"

- Dr. HensonGraves (Algos Associates) - "The Role of Diagrams in Logic-based modeling and ontology"

Discussion

Open Discussion – ALL

I. Open Discussion on programs and topics of interest

II. How can we best frame the discussion and organize the effort

III. Events & Action Plans