Organizations:

- CUBRC

Lead Investigator:

- Mr. Justin Del Vecchio – CURBC

Team Members:

- Dr. Moises Sudit – CUBRC
  Co-Investigator
- Dr. Rakesh Nagi – UB Industrial and Systems Engineering
  Co-Investigator

Research Objective:

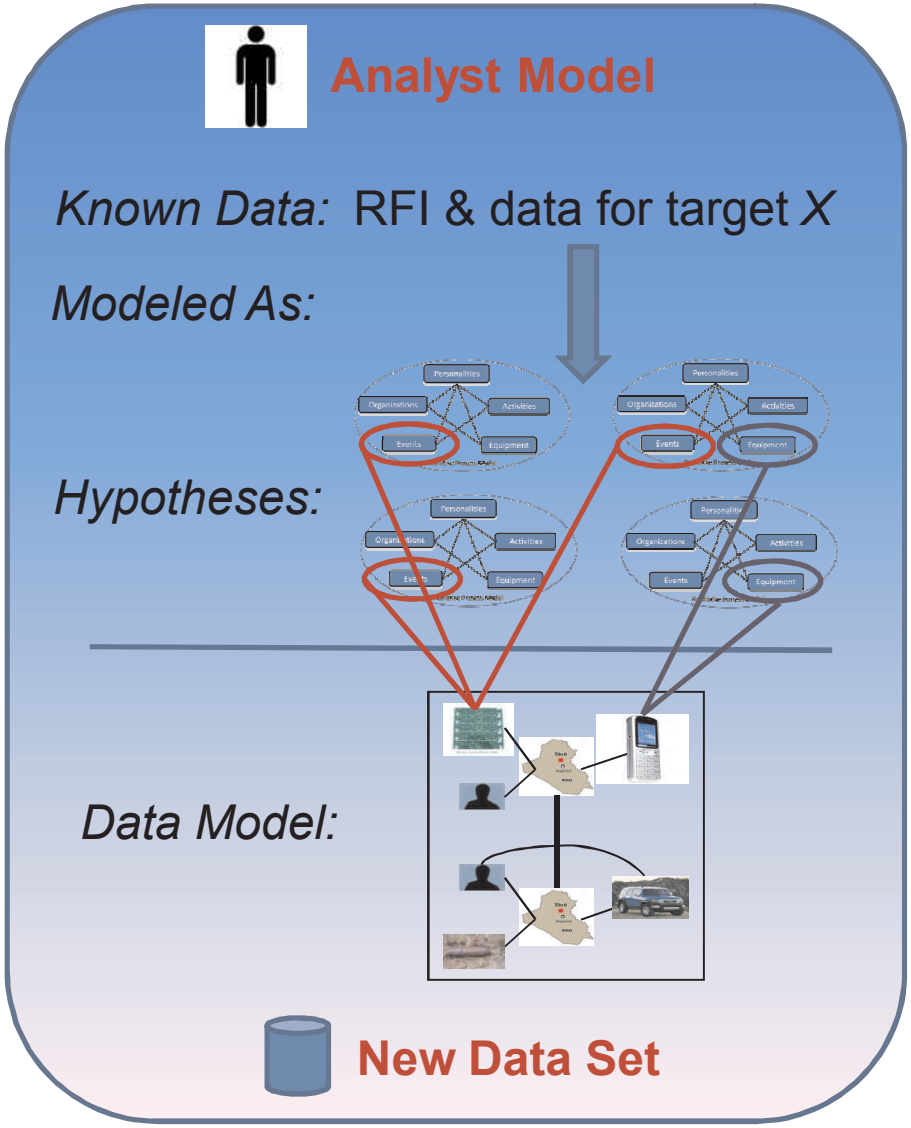
- *Organize analyst model (search results) as a set of hypotheses*
- *Reduce uncertainty of these hypotheses via graph reasoning*

Analyst Thought Process:

- Initial request for information (RFI)
- Evidentiary data set assembled
- Infer possibilities of situation(s)

Incorporation of New Data:

- Fill in unknowns for enumerated hypotheses
- Reinforce beliefs for enumerated hypotheses
- *Help refine estimates*

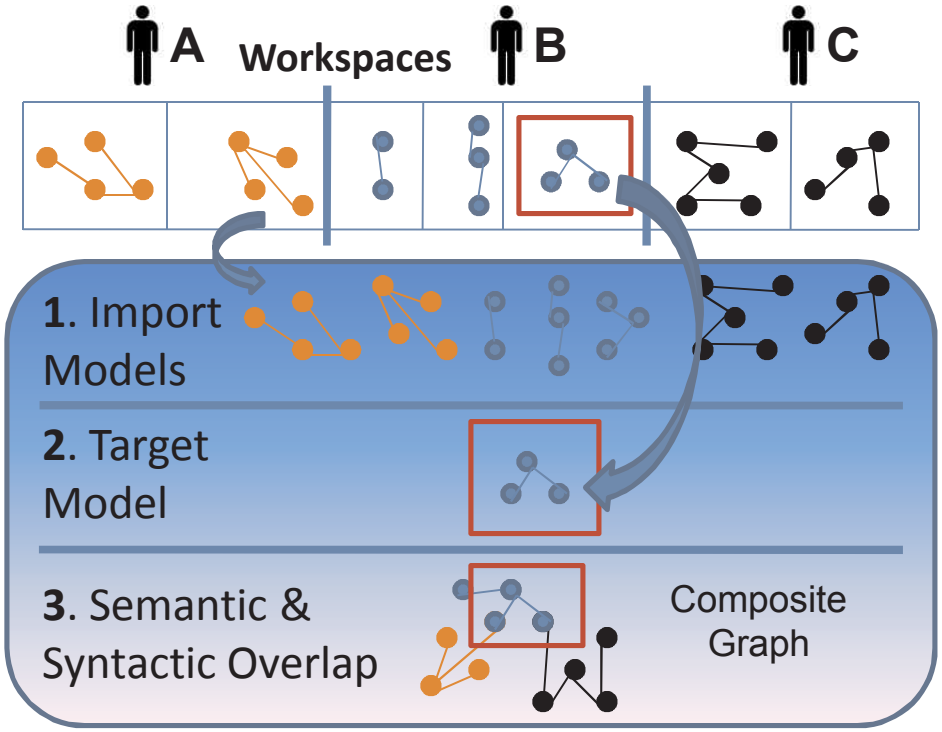


Qualifications & Capabilities:

Research and development in Level 2/3 Information Fusion domain

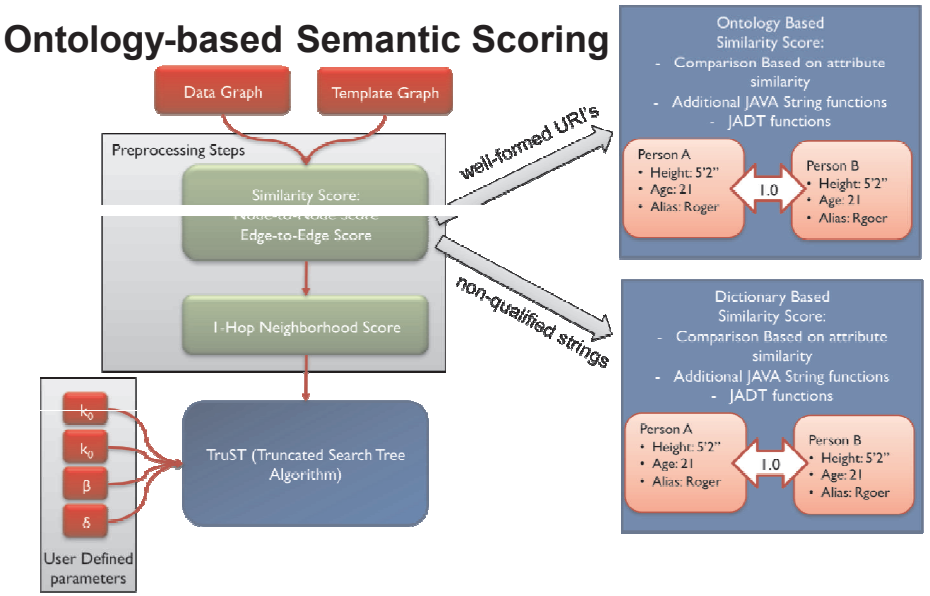
Blackbook Collaboration Plugin:

- Analyze analyst models (search results)
- Match models syntactically and semantically via graph-based matching

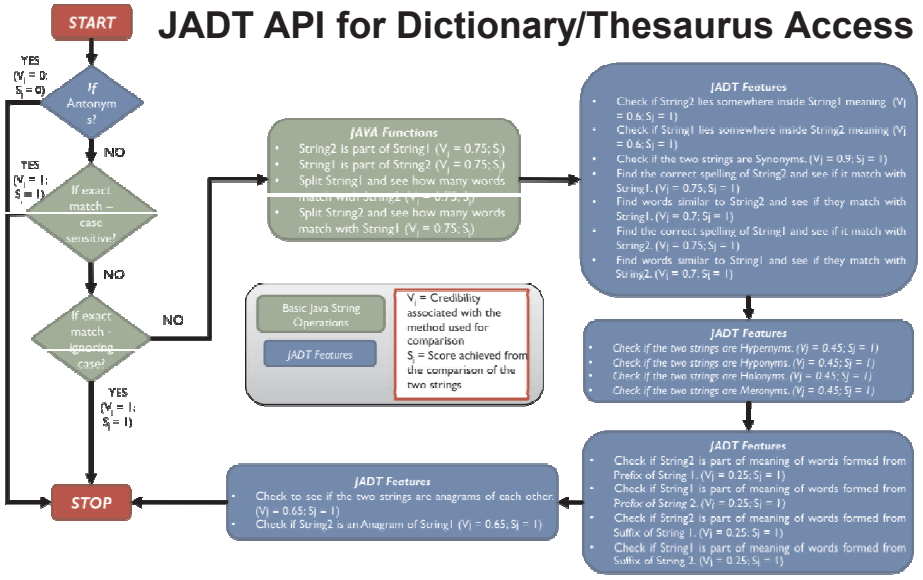


Collaboration Algorithm

Ontology-based Semantic Scoring



JADT API for Dictionary/Thesaurus Access



Research of Interest:

- Enhancing Analysts' Models
  - Hypothesis ontology with types for known, unknowns, beliefs, etc.
  - Tools to set up hypotheses
  - Tools to minimize uncertainty
  - Tools to identify analysts with similar interests to a target model
  - Tools to refine confidence of hypotheses, especially upon graph matching of elements from new data sets to analyst models
- Unifying results of multiple semantic matching algorithms

  Framework that brings together results from:
  - Thesauri expansion
  - Reasoning via RDF/OWL
  - Graph traversal

  Choosing which of these algorithms yields the results the analyst wants

Contact Information

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