

Enabling Analyst-Centric Collaborative Modeling, Forecasting, and Evaluation

Mr. Sean Guarino, Ms. Leslie Kain, Dr. Jonathan Pfautz
Charles River Analytics Inc.

Research Areas of Interest

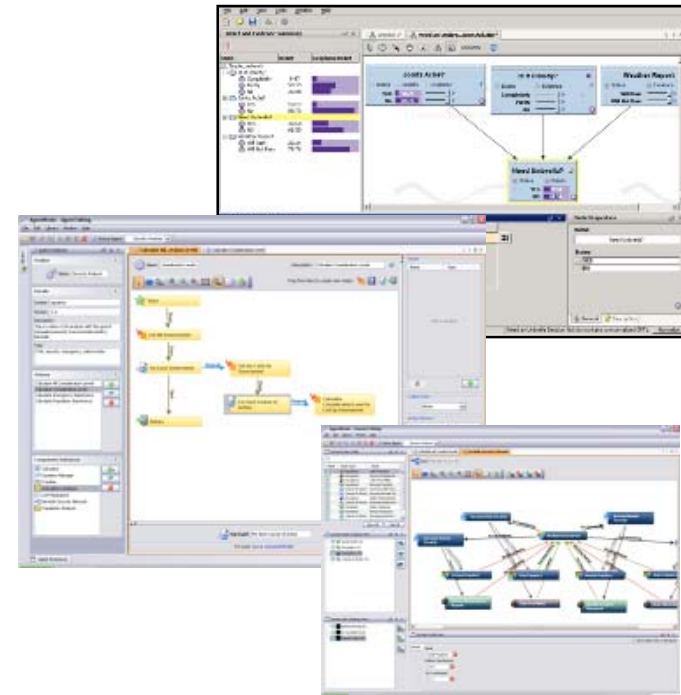
Enable analyst-centric collaborative analysis using intuitive tools to construct, justify, contextualize, evaluate, and apply operationally relevant probabilistic forecasting models

- *Express and Refine Knowledge*
 - Design powerful but accessible modeling tools to support model construction
 - Design tools for justify, annotate, and source models
 - Leverage expertise in socio-cultural / behavioral models & dynamics
- *Evaluate and Apply Models*
 - Design tools to guide inexperienced modelers through evaluation and application
 - Design sensitivity analysis tools to identify potential issues in models
- *Collaboration*
 - Design collaborative workspace to allow remote users to cooperate in model construction
 - Design community model to provide metadata for interpreting models
 - Design automated tools for aggregating related probabilistic models

Qualifications and Capabilities

Technology / Research:

- Build / apply probabilistic reasoning and forecasting models
 - Full gamut of computational modeling approaches
 - Adaptive approaches for critical military / intelligence reasoning & forecasting requirements
 - Make computational approaches accessible to analysts
 - Multiple ongoing programs in Human Social-Cultural-Behavioral (HSCB) modeling & analysis
- Intuitive graphical model development for tools and HCIs
 - Deep understanding of modeling domain, including cognitive & collaboration challenges
 - Experience applying Cognitive Systems Engineering tenets to design user-focused HCIs
 - Systems for user creation & adaptation of models
 - Intuitive tools for Bayesian network, social network, and hybrid computational model development
- Software engineering
 - Extensive collaboration with Users, SMEs, and target computing environment
 - Rapid prototyping to demonstrate proof-of-concept of cutting edge research concepts
 - Open standards for interoperability
 - Successful transitions to operationally deployed analysis tools and software components



Teaming:

- Experienced in leading teams of Small Businesses & University researchers; provide link between basic/applied research and Customer operations / mission requirements & Programs
- Collaborative strategic partner as Sub to Large Systems Integrators

Customers:

- Current & past programs with Gov't, including IARPA, DARPA, DHS, SOCOM, JIOWC, etc.

“Dream Team”

We Seek:

- Academic teammates with new/innovative:
 - Computational modeling approaches that are well suited to collaboration and/or integration results
 - Approaches to collaborative model development
- Partners (SB, LSI) with operational domain expertise and programs in the target intel environment
- Partners with existing systems that can be augmented with advanced collaborative probabilistic forecasting methods

Contact Information



Mr. Sean Guarino
Senior Software Engineer

sguarino@cra.com

617-491-3474 x561



Ms. Leslie Kain
Vice President
Strategic Programs

lkain@cra.com

202-997-6108

Dr. Jonathan Pfautz
Principal Scientist

jpfautz@cra.com

617-491-3474 x541

Charles River Analytics Inc.

625 Mount Auburn Street
Cambridge, MA 02138

www.cra.com