POTENTIAL PROPOSERS' LIST

Besma Abidi - Tandent Vision Science - babidi@tandentvision.com, (865)622-7579

Capability Statement:
We specialize in bringing lasting solutions to the computer vision/surveillance/intelligence communities using proprietary software based upon novel spatio-spectral methods. Our never before used methods address one of the toughest challenges, i. e., illumination and lighting, which generally have devastating effects on computer vision processes. We are able to undo the effects of illumination on an image. This relieves computers from being subject to reasoning and decision-making errors, based on changes in scene appearance due to lighting and illumination. Our technology separates the veil of illumination from the intrinsic material colors of a scene, so the temporal or situational variation in lighting does not interfere with machine perception. This is an invaluable asset in geospatial/temporal situational awareness and persistent surveillance, where shadows, highlights and changes in spectral characteristics of light (times of day, different cameras, satellite imagery, aerial photography) often lead to the loss of a tracked object or the failure to properly recognize.

Eugene Agichtein - Emory University - eugene@mathcs.emory.edu, (404)727-7962

Capability Statement:
Dr. Agichtein leads the Emory Intelligent Information Access Lab (IRLab): http://ir.mathcs.emory.edu/, currently with three Ph.D. and three MS students. The lab works on information retrieval and text and data mining, focusing on searching and analyzing content and user interactions on the web and in social media.

Brooke Aker - Expert System - baker@expertsystem.us.com, (860)728-8000

Capability Statement:
Expert System is a leading provider of semantic software, which discovers, classifies and interprets text information in multiple languages including Arabic. All Expert System products, which are based on the patent pending technology COGITO ®, leverage the company's expertise in the development of solutions for the support of activities in Knowledge Management, Intelligence and Homeland Security. Worldwide government and corporate customers include the likes of the Italian Ministry of Defence, the Ministry of Interior Affairs, Microsoft, RIM, Honda, CVS, Eni Group, Pirelli, and Telecom Italia. For more information, please visit: www.expertsystem.net.

Jennifer Albertson - ARA - jalbertson@ara.com, (919)582-3300

Rafael Alonso - SET - ralonso@setcorp.com, (609)647-6600

Capability Statement:
Database systems, federated databases, ontology alignment

John A. Anderson - Cougaar Software, Inc. (CSI) - janderson@cougaarsoftware.com, (703)506-1700

Capability Statement:
Cougaar Software, Inc. (CSI) is a small, veteran-owned business formed in 2001 and a recognized global leader in distributed and intelligent decision support technologies. CSI developed a variety of planning, service management, information dissemination and situational reasoning technologies for the US military. CSI applied intelligent agent technologies to C2 and logistics challenges including resource allocation, scheduling optimization, and distributed collaboration.

ActiveEdge® - ActiveEdge is CSI's development platform for large-scale distributed intelligent solutions. ActiveEdge extends a cognitive agent architecture to simplify application development, increase functionality, and provide enhanced Web Service-compliant system capabilities essential to manageable large-scale distributed development.

ActiveEdge adds intelligence to existing applications and data to rapidly enhance business value. ActiveEdge mediates and transforms data into actionable knowledge--efficiently and reliably gathering, integrating, and distributing volumes of complex data from diverse sources and models. ActiveEdge creates an understandable real-time situation picture, facilitating event management, execution monitoring, and collaborative enterprise-wide intelligent decision support.

Capabilities

CSI provides a spectrum of engineering capabilities for distributed intelligent decision support including concept exploration, R&D, prototype and system development, enterprise-wide architecture design, and consulting. Projects include:

- US Army Logistics Innovation Agency(LIA)/G4 Sense & Respond Logistics leadership.
- US Army CERDEC joint US-GE Simulation and C2 Information Systems Connectivity Experimentation (SINCE) and the Tactical Information Technologies for Assured NetOps (TITAN).
- LIA's Enterprise-Based Approach to Logistics (EBAL).
- Office of Naval Research (ONR) Sense and Respond Logistics (S&RL) Architecture.
- Logistics Decision Support Tool for Joint Forces J4 demonstrating a Non-Combatant Evacuation Operation (NEO) scenario.

Karyn Apfeldorf - Arete Associates - kapfeldorf@arete.com, (818)885-2288

Gabriela Araujo - Science and Technology Associates, Inc. - gabriela.araujo.ctr@darpa.mil, (571)218-4392

John Asbery - NGA - johnny.n.asbery.ctr@nga.mil, (703)735-2626

Capability Statement:
I am a SETA contractor for NGA, attending to keep abreast of the KDD program.

Antonio Badia - University of Louisville - abadia@louisville.edu, (502)852-0478

Capability Statement:
R&D in databases, ontologies, knowledge representation, information integration, advanced search, reasoning support

Steve Bankes - BAE Systems - steven.bankes@gmail.com, (703)501-7639

Capability Statement:
My group has expertise in computational social science, planning systems, and machine learning.

Shep Barge - SAIC - bargew@saic.com, (703)312-6060

Capability Statement:
Data model development; Algorithm development; Metrics-based experimentation; Operate classified test environments to identify and evaluate infrastructure, tools, and services.

Fotis Barlos - BAE Systems - fotis.barlos@baesystems.com, (781)262-4799

Tom Bascom - LinkSpace - tom@linkspace.net, (703)200-5555

Capability Statement:
LinkSpace provides leading edge technologies built to semantically organize distributed information on and across networks. Our technology lets users semantically register their information on the network to facilitate automated semantic discovery, collection, integration and analysis. Our products are part of a new vision for an open, interoperable information network architecure.

Ray Bassler - BCANetwork, LLC - rayb@bcanetwork.com, (410)869-1325

Capability Statement:
BCANetwork, LLC (BCANetwork) is a woman owned small business that was founded to provide development and consulting resources to enterprises needing solutions for complex multi-vendor middleware technologies and to solve the hard problems that prevent collaboration and the sharing of information.
BCANetwork has worked with companies (both large and small) and government organizations to develop secure applications and solutions and to design security architectures for sharing of operational information within enclave security domains and across different security domains. We have experience implementing secure access to legacy applications (including web enabling) and support standards-based and custom authentication solutions using SSL, X.509 PKI and X.500/LDAP environments.

Bruce Bauer - IARPA/Incisive Analysis/KDD - bruce.g.bauer@ugov.gov, (240)373-5340

Glenn Becker - Unisys - glenn.becker@unisys.com, (703)851-1859

Heather Biehl - BBN Technologies - hbiehl@bbn.com, (617)873-3658

Eric Bonabeau - Icosystem - eric@icosystem.com, (781)771-1022

Eugene Borisenko - Euromonitor International - eugene.borisenko@euromonitorintl.com, (312)922-1115 x8307

Capability Statement:
Euromonitor International is a leading independent provider of comprehensive market, social and economic intelligence, providing clients with syndicated and custom research solutions across a wide range of industries. To date Euromonitor Consulting have successfully delivered bespoke research to more than 2,000 clients, including US and foreign governments, with studies ranging from straight forward single country market analysis to more complex multi-country

studies and in-depth intelligence gathering. Over 90% of Fortune 500 companies rely on Euromonitor's databases and research tools to gather global intelligence and conduct strategic analysis.

Roger Bradford - Agilex Technologies Inc - r.bradford@agilex.com, (703)889-3916

Capability Statement:
Agilex Technologies provides professional services for enterprise IT applications, with particular emphasis on information discovery in large-scale data collections. In particular, the Semantic Engineering Practice at Agilex has in-depth understanding of the application of latent semantic engineering (LSI) in large applications.

Jeff Bradshaw - IHMC - jbradshaw@ihmc.us, +1 850 232-4345

Selmer Bringsjord - Rensselaer Polytechnic Institute - selmer@rpi.edu, (518)276-6472

Ken Brown - Linguastat, Inc - kbrown@linguastat.com, (301)576-6394

Lance Byrd - Marathon Minds LLC - lancebyrd@marathonminds.com, (443)860-9741

Capability Statement:
Marathon Minds is a leader in Semantic Web and distributed systems software. We have significant experience in transitioning research to the marketplace.

Wendy Campbell - VIPMobile, Inc. - info@vipmobile.com, (415)632-1237

Capability Statement:
Facilitate applied research excellence by procuring US government contracts in support of our three development groups:
Design, assemble and support Intelligence, Surveillance, and Reconnaissance Systems
- Enhanced image capture and transfer software via SATCOM
- Find, fix, and finish software for UAV sensor payloads

Design, assemble and support small team tactical systems
- Software-defined radio communications
- Subsea communications and situational awareness for Naval Special Warfare

Design, assemble and support renewable energy solutions
- Space solar power and propulsion systems for NASA Glenn Research Center

Jaime Carbonell - CMU - jgc@cs.cmu.edu, (412)268-7279

Capability Statement:
Machine learning, Text mining, Data mining, Scalable algorithms for anomaly and novelty detection and for dynamic tracking of events and profiles in large-scale data streams.

Marco Carvalho - Institute for Human and Machine Cognition - mcarvalho@ihmc.us, (850)202-4446

Sam Ceccola - Dovel Technologies - sam.ceccola@doveltech.com, (703)980-4012

Capability Statement:
Dovèl Technologies, a CMMI® Level 3 company, is a leader in Service Oriented Architecture (SOA), system integration, and software development focused on Defense & Homeland Security Systems and Health Information Technology. For more than 20 years, Dovèl has provided IT systems and support to Federal and Defense clients.

Our SOA practice combines our extensive hands-on systems experience with the knowledge and thought-leadership required to bring SOA to bear on your organization's toughest challenges.

As an integrator and software developer, we have led and supported some of the largest, most complex, highly visible, and transformative information systems anywhere. All systems, where Dovèl served in a leadership role, were successfully developed, deployed, and remain in production today – a testament to our commitment to quality and our clients.

Jeffrey Chapman - Agincourt Solutions - jchapman@agincourtsolutions.com, (202)459-1928

Capability Statement:
Agincourt provides instinctive and innovative software solutions that speed productivity and decision-making processes for our clients by transforming raw, multifaceted and multi-lingual data into actionable intelligence

Kendall Clark - Clark & Parsia LLC - kendall@clarkparsia.com, (202)408-8770

Capability Statement:
Clark & Parsia LLC is a leading vendor of OWL ontology reasoning systems, including Pellet, the leading OWL reasoning engine. Pellet is a Java, open source licensed system that is at the forefront of ontology-based information systems using OWL, the W3C standard ontology language. We are particularly interested in OWL-based approaches to ontology alignment and mapping, via SPARQL and SWRL -- both of which are supported by Pellet -- together with machine learning approaches.

Munir Cochinwala - Telcordia Technologies - munir@research.telcordia.com, (732)699-2760

Capability Statement:
I have been working in databases, data models and data analysis for over twenty years for both research and industrial applications.

Peter Coddington - PaRaBaL Software - pcoddington@parabal.com, (301)854-1202

Capability Statement:
Design Web-Based Widgets for Analytics

Brian Colder - Colder Scientific - Brian.W.Colder.ctr@nga.mil, (703)786-1053

Capability Statement:
Colder Scientific currently provides neuroscience and cognitive science subject matter expertise and research support to the National Geospatial Intelligence Agency. We also produce designs for intuitive, uncluttered interfaces to massive and complex data.

Son Dao - HRL Laboratories - skdao@hrl.com, (310)317-5682

Capability Statement:
Multimodal-Data Analysis tools for anomalies detection, mobility patterns, and events prediction

Jennifer Davis - Rockwell Collins - jadavis4@rockwellcollins.com, (319)295-0370

Capability Statement:
Rockwell Collins has expert knowledge in the utilization of novel evolutionary algorithms for cognition, knowledge discovery from disparate sources, and dissemination. We have applied these technologies in test engineering with great success and would like to transfer these technologies to the intelligence domain.

Andrew DeCarlo - Infoscitex - adecarlo@infoscitex.com, (781)890-1338 x289

Justin Del Vecchio - CUBRC - delvecchio@cubrc.org, (716)204-5139

Capability Statement:
CUBRC is a full service Government contractor providing research, development, testing and engineering services to a variety of U.S. Government customers as well as state and local governments. Founded in 1983 as a not-for-profit research organization, CUBRC operates several highly complex research and test facilities including: the World's most advanced and state-of-the-art hypersonic research and test facilities; state-of-the-art laboratory facilities certified to use highly toxic or lethal chemical and biological warfare agents. In addition to its state of the art research and test facilities, CUBRC's Information Exploitation Sector provides cutting edge software research and development is performed and applications are developed for a variety of U.S. Government customers. The CUBRC/UB Center for Multi-source Information Fusion (CMIF) was jointly established in 1997 by CUBRC and the State University of New York at Buffalo, emerging as pioneer in the Information Fusion field. The Center's current focus is on basic and applied information fusion research and software development in multiple-source information processing environments, such as in multiple sensor or multiple instrumented systems. CUBRC has cleared facilities and personnel to perform classified work at many of its locations.

Dwight Dietrich - DYNAMiX - ddietrich@dynamixtechnologies.com, (724)940-4304

Capability Statement:
Experienced IARPA contractor previously partnering with Carnegie Mellon University on a number of knowledge discovery and dissemination programs including Novel Information from Massive Data (NIMD), Proactive Intelligence (PAINT), and RDEC & NIST-sponsored testing of knowledge discovery and dissemination software applications.

Dave Dobis - NCI Inc. - ddobis@nciinc.com, (703)707-6616

Sean M. Duncan - Southwest Research Institute (SwRI) - sduncan@swri.edu, (801)773-9761

Capability Statement:
Southwest Research Institute (SwRI), headquartered in San Antonio, Texas, is one of the oldest and largest independent, nonprofit, applied research and development (R&D) organizations in the United States. Founded in 1947, SwRI provides contract research and development services to industrial and government clients in the United States and abroad.

The Training, Simulation & Performance Improvement Division develops innovative and effective solutions to training and performance problems. The Institute develops simulators, simulation systems, interactive courseware and performance-enhancing systems using state-of-the-art technologies to provide a wide range of integrated training solutions.

The Institute has 11 technical divisions cooperating in multidisciplinary approaches to problem-solving. A partial listing of research areas includes: advanced electronics; aircraft structural integrity; antennas, radio wave propagation and electromagnetic modeling; automation, robotics, and intelligent systems; automotive engineering; avionics and support systems; ballistics and explosion hazards; bioengineering, biomechanics and biomaterials; chemistry and chemical engineering; communications systems and signal processing; corrosion and electrochemistry; cyber security and information assurance; Earth and planetary sciences; engineering mechanics; environmental and health sciences; fire technology; fluid systems and fluid machinery; fracture mechanics; fuels and lubricants; geochemistry and radiochemistry; geological and mining engineering; geophysical and geological investigations; hydrology and geohydrology; information and electronic warfare; intelligent transportation systems and vehicles; internal combustion engine emissions research; manufacturing technology; marine technology; materials sciences; medical information systems; modeling and simulation; nondestructive evaluation; oil and gas exploration and development; optics and sensor technology; penetration and armor mechanics; pipeline technology; probabilistic mechanics and uncertainty quantification; risk and hazard assessment; signal exploitation and geolocation; software engineering; space science; space instrumentation and spacecraft systems; structural engineering; surface modification and coatings; surveillance technology, training systems and simulators; unmanned aerial vehicles and systems; vehicle, engine and powertrain design, research and development.

Carson Edmondson - Circinus - carson.edmondson@circinus-llc.com, (703)286-5480

Capability Statement:
Circinus is a Veteran-Owned Small Business (VOSB) focused on providing strategic business consulting, program management, training and training development, technology integration, and other advisory services. We advise both government and commercial clients on the development and integration of advanced and emerging technologies to meet their needs. Our personnel consult, manage, train, and develop quality solutions that meet our clients' needs and exceed their expectations. Circinus is dedicated to building long-term relationships with clients through quality advice and customer support.
Capabilities & Services:

Our trainers have been effective in providing high quality instruction across a wide spectrum of need and continue to deliver amazing results.
We have expertise in the following subject areas:

- Strategic Planning
- Program Management
- Systems Engineering, Architecture Development, and Process Engineering
- Training Development
- Communications
- Intelligence Training & Intelligence Analysis
- Augment intelligence products
- Linguist Support (Arabic, Pashto, Korean, Russian, German, and Spanish)
- Worldwide Mobile Training Teams
- Operational Intelligence Support
- Emerging Technology Integration
- Intelligence Estimates and Assessments
- Informed insights into Defense Production and Research & Development
- All-source, Imagery and Signals Analysts
- Special Country Studies, Cultural and Link Analysis, and Social Network Development

Functional Area Expertise: Circinus personnel have been engaged in the training of approximately 95 U.S. Army Units, 5 Combatant Commands, 5 National Agencies, 4 Joint Task Forces, and 5 Special Forces Groups. Trained units at Fort Gordon include the 513th Military Intelligence Brigade and the 116th Military Intelligence Group.

Steve Esposito - Infoscitex - sesposito@infoscitex.com, (614)657-1315

Capability Statement:
Infoscitex Corporation (IST) is an engineering research and development company focused on providing technical services and developing advanced technologies for customers in the Defense, Aerospace, and National Security sectors. IST's mission is to develop concepts into highly effective products and services for its customers, and has built its business by marrying innovative, multi-disciplinary technical teams with an agile, responsive environment - thus ensuring effective partnerships and shared success with our customers. IST offers broad domain expertise spanning a range of technical disciplines including systems engineering, software engineering, modeling, simulation, and analysis (MS&A), data analytics, and operational research. IST has a range of experience developing and applying analytic algorithms, including extracting emotions from video, predicting human behavior from social networks, and detecting and preventing cyber attacks. IST welcomes discussions and opportunities to collaborate, team, and exchange capabilities.

John Faulkenberry - EWSolutions - JFaulkenberry@EWSolutions.com, (312)303-4242

Capability Statement:
EWSolutions is a GSA Schedule 70 Small Business consulting firm with a TS Facility Clearance founded in 1997. We have been providing consulting services to the US Intelligence Community since 2003. EWSolutions provides research, strategic consulting, and full lifecycle systems integration focused on enterprise information management (EIM) initiatives, such as data warehousing/business intelligence, analytics, data mining and text mining, metadata management, information architecture, enterprise data modeling, information sharing (NIEM), data mapping and integration, data governance and stewardship, master data and reference data management, data quality management, structured & unstructured data management, and information security management. Within this focus EWSolutions provides complete support in all aspects of these efforts, including developing strategy and requirements, architecture and design, implementation, training/knowledge transfer, and on-going support.

Tim Finin - UMBC - finin@cs.umbc.edu, (410)455-3522

Capability Statement:
UMBC is a mid-sized public research university in the Baltimore-Washington area with concentrations in engineering, science, information technology and public policy. The UMBC Ebiquity Research Group consists of faculty and students from the Department of Computer Science and Electrical Engineering. Our focus is on building intelligent information systems for open, dynamic and heterogeneous environments. We are experienced in developing software systems for the Semantic Web, high-performance computing, mobile and pervasive computing environments, machine learning and natural language processing.

David Fisher - Battelle - fisherd@battelle.org, (410)306-8639

Capability Statement:
Battelle is a charitable trust organized as a non-profit corporation that develops, manages, and commercializes technology. Battelle is a multibillion-dollar enterprise that manages more than 20,000 scientists, engineers, technicians, and supporting specialists worldwide who conduct more than $4 billion of R&D each year. Battelle has a broad array of capabilities but with specific relevant expertise in information systems and advanced analytics. This expertise includes software engineering, visualization technologies, text analytics, ontology development, image analysis, hyperspectral algorithm development, advanced processing, data fusion and modeling & simulation.

Jared Freeman - Aptima - freeman@aptima.com, (202)842-1548

Capability Statement:
Aptima specializes in solving problems of human performance in today's complex sociotechnical systems. We are market leaders in the design of measures, human behavioral research, computational modeling of human systems, user-centered technology and training systems that make individuals and teams more effective.

Mike Garramone - Alion Science and Technology - mgarramone@alionscience.com, (703)269-3433

Capability Statement:
Alion Science and Technology, formerly the Illinois Institute of Technology Research Institute (IITRI) is founded on an eclectic science base composed of both the hard (physics, chemistry, etc.) and soft (social sciences, psychology, and anthropology etc.) sciences. Alion operates approximately 94,000 square feet of laboratory space supporting Modeling and Simulation/Training, Electromagnetic and Radio Frequency Effects, Chemical/Biological/Environmental Testing and Development, Information Technology, Acoustics, Materials and Manufacturing, Sensor Technologies and Fluid Sciences.

Matt Gaston - GDC4S | Viz - matt.gaston@gdc4s.com, (412)432-2200

Capability Statement:
Viz, a business area of General Dynamics C4 Systems, is a leader in developing and deploying world-class collaborative information visualization and analysis software. CoMotion, our core collaborative visualization platform, is used in applications for drug discovery, clinical trials, military command and control, emergency response, project management, and logistics. The Army's Command Post of the Future (CPOF) is the most well-known application built on top of the CoMotion platform. Our deep approach to collaboration uses data and visualizations of data as the central media of collective analysis, discovery, and sharing among individuals. More recently we have been exploring end-user programming capabilities that allow analysts or operators to easily customize the behavior of their tools at run-time and rapidly construct custom information management and analysis capabilities without the need for software developers.

Johannes Gehrke - Cornell University - johannes@cs.cornell.edu, (607)255-1045

Capability Statement:
Our group has expertise in multi-modal data mining (integrating images, text, and geolocation) and in modeling and management of probabilistic data as needed for data and schema integration. For more information see http://www.cs.cornell.edu/johannes, http://www2009.eprints.org/77/ and http://www.cs.cornell.edu/bigreddata/maybms/.

Lise Getoor - University of Maryland, College Park - getoor@cs.umd.edu, (301)405-2691

Capability Statement:
My expertise is in relational data mining, probabilistic reasoning, and visual analytics in support of relational data mining.

Roxana Girju - University of Illinois at Urbana-Champaign - girju@illinois.edu, (217)244-4130

Capability Statement:
I do research in Natural Language Processing / Computational Linguistics. In particular, I am interested in computational language models of semantics and pragmatics, semantic knowledge discovery. The target areas of application have been Natural Language Understanding and Intelligent Access to Textual Information.

Bryan Giuliani - Attensity Group - bgiuliani@attensity.com, (801)358-5497

Mark Goldberg - RPI - goldberg@cs.rpi.edu, (518)276-2609

Capability Statement:
We have developed advanced algorithms for analyzing the structural dynamics of social networks, including identification of communities, topics spotting, diffusion of infectious ideas, and discovery of behaviorally hidden groups. We have also developed a software library to automate the process of dynamically extracting graphs from semantic networks. Many of our algorithms have been implemented in the proof-of-concept software system SIGHTS.

Henry Goldberg - SAIC - HENRY.G.GOLDBERG@saic.com, (703)469-3428

Bill Grosky - UMD - wgrosky@umich.edu, (248)935-8444

Capability Statement:
Have done much work in multimedia information management, database integration, and data mining.

Dave Gursky - Raytheon IDS - dave_m_gursky@raytheon.com, (703)419-1414

David Haglin - Pacific Northwest National Laboratory - david.haglin@pnl.gov, (509)375-2861

Capability Statement:
The unique features of the Cray-XMT---large shared memory, latency tolerant processors, and hardware support for fine-grain synchronization---can provide new analytics capabitilies that are otherwise unfeasible running on traditional HPC systems. Examples of these analytics include clustering, pattern matching, outlier detection, and relationship traversal. PNNL is pushing the limits of analytical capabilities that depend upon memory-intensive computations with unstructure memory access patterns.

Jiawei Han - Univ. of Illinois - hanj@cs.uiuc.edu, (217)333-6903

Capability Statement:
Jiawei Han is a Professor in the Department of Computer Science at the University of Illinois. He has been working on research into data mining, data warehousing, stream data mining, spatiotemporal and multimedia data mining, biological data mining, social network analysis, text and Web mining, and software bug mining, with over 400 conference and journal publications. He has chaired or served in over 100 program committees of international conferences and workshops and also served or is serving on the editorial boards for Data Mining and Knowledge Discovery, IEEE Transactions on Knowledge and Data Engineering, Journal of Computer Science and Technology, and Journal of Intelligent Information Systems. He is currently the founding Editor-in-Chief of ACM Transactions on Knowledge Discovery from Data (TKDD). Jiawei has received three IBM Faculty Awards, the Outstanding Contribution Award at the International Conference on Data Mining (2002), ACM Service Award (1999) and ACM SIGKDD Innovation Award (2004), and IEEE Computer Society Technical Achievement Award (2005). He is an ACM and IEEE Fellow. His book "Data Mining: Concepts and Techniques" (Morgan Kaufmann) has been used popularly as a textbook.

Research interest: Data mining, Information network analysis, Text cube and multidimensional data mining, spatiotemporal and moving object (trajectory) data mining

John Helmsen - Argon ST - john.helmsen@argonst.com, 7038282278

Capability Statement:
Head of the Image Processing and Machine Learning Group at Argon ST. Expertise in COMINT, ELINT, SIGINT, Automated Image Understanding, Automated Image Navigation, Automated Handwriting Recognition, Sensor Fusion and Multi-Sensor Tracking.

George Hinckley - MTCSC - ghinckley@mtcsc.com, (703)221-7500 x52245

Laura Hitt - 21st Century Technologies (21CT) - lhitt@21technologies.com, (512)342-0010 x305

Capability Statement:
21CT provides powerful solutions to fill critical technology gaps faced by the government and large-scale commercial entities. Our technical capabilities include sensor exploitation (audio signal processing, image processing, computer vision), intelligence information (social network analysis, data mining, behavioral modeling, data fusion)and cyber (information assurance, network modeling and defense). We use our technologies to perform threat detection and analysis in large-scale search operations on real-world datasets. These capabilities aid in countering the asymmetric threat by providing understanding and anticipation of the adversary's behavior.

Mark Hoffman - Lockheed Martin ATL - mark.hoffman@lmco.com, (770)331-2618

Capability Statement:

R&D Laboratories for Lockheed Martin. Focus on 6.1-6.4 research and integration activities.

Tobias Hollerer - UCSB - holl@cs.ucsb.edu, (805)893-8759

Capability Statement:
Our R&D group has developed interactive data analysis and visualization software that runs natively in a web browser (see www.wigis.net). We have extensive expertise in interactive and collaborative data analysis of heterogeneous data collections and have integrated our work in the KDD Blackbook infrastructure.

Pete Hottenstein - Southwest Research Institute - phottenstein@swri.org, (210)522-3731

Capability Statement:
SwRI is a not for profit applied research and development organization. We offer a wide range of engineering services including advanced data visualization for training, analysis, testing, and research. Specifically, we have developed a state-of-the-art data analysis architecture for processing voluminous disparate data streams in near real time. Our research has focused on geo-spatial processing but can be extended to other domains. This architecture addresses alignment of data across various data models and supports extension to new data models. We also have developed unique methods for pattern recognition to support high-density data sets and near real time analysis.

Carl Houghton - ISS - carl.houghton@issinc.com, (719)234-0635

Capability Statement:
Intelligent Software Solutions is a leading provider of research and development, as well as software and services to the DoD as well as many other government agencies. The company specializes in rapid prototype development of applications in support of the intelligence and operational communities. As well as retaining a staff of world class software experts, the company also employs a large number of highly experienced subject matter experts across the spectrum of military intelligence specialties.

Mike Huhns - University of South Carolina / GITI - huhns@sc.edu, (803)777-5921

Capability Statement:
The University of South Carolina has a succdessful track record in investigating agent-based solutions to the problem of managing massive amounts of heterogeneous evidence, especially where uncertainty is involved. For this, we make use of our theoretically precise and state-of-the-art extensions to Bayesian reasoning.

Brian Ippolito - Orbis Technologies, Inc. - bippolito@orbistechnologies.com, (410)224-9735

Capability Statement:
Orbis Technologies, Inc. is a boutique provider of Strategic Technology Services supporting next generation Service Oriented Architecture (SOA) based Enterprise Information Processing Solutions. Orbis customers typically require an architecture that can support hundreds of heterogeneous data sources with Terabytes of information.

Enterprise Architecture Services
Orbis provides a collection of technology and engineering services, shown in Figure 1, to support the creation of Web 3.0 (semantic) architectures:

- Architectural services and product analysis to support Data Federation, the mapping of core Web Services, and the selection of appropriate products to support Enterprise Data Integration. Orbis has performed detailed product evaluations of Enterprise Information Integration (EII) products and is currently in the process of releasing a Semantic Enterprise Information Integration (EII) Reference Guide.
- Service Oriented Architecture (SOA) technology services include technical strategies for the integration of a Metadata Registry and the ability to perform Impact Analysis (Lineage, Provenance, etc.) on web services as a result of the integration and/or modification of data models, web services, and/or new data. Orbis has extensive experience working with a variety of industry and government data standards.
- Semantic architectural services include the creation of semantic task managers that integrate with Federated Search capabilities in order to provide an enterprise view of data and support semantic data mediation and cleansing. Additionally, Orbis provides experienced ontology developers to assist in creating ontological models of enterprise data.
- Ontology development services support extensive Domain Modeling. Orbis is familiar with the core industry data standards (Manufacturing, Finance, Government, Health Sciences, Geospatial, etc.) supporting the creation of enterprise-level interoperable data across multiple domains.
- A key component to Web 3.0 architectures is the Advanced Text Analytics for the integration of unstructured, semi-structured and structured data. Orbis has proven experience integrating COTS entity extractors and specialty tools to build custom Text Analytics web services in support of multi-lingual extraction, sentiment analysis, document categorization, and classification.
- Semantic architectural platforms represent data via the World Wide Web Consortium (W3C) industry standard Resource Description Framework (RDF) and Web Ontology Language (OWL). Orbis architects RDF based platforms to support inference/reasoning capabilities that subsequently support Semantic Query/Search capabilities. Orbis developed semantic query services search for semantic classes, execute graph queries and create facet-based queries.
- Semantic Enabled Visualization product suites require building integrated and interoperable COTS and custom applications that pass common data elements across applications.

Mike Jennings - EWSolutions - mjennings@ewsolutions.com, (630)920-0005

Vernon Joyner - QinetiQ North America - vernon.joyner@qinetiq-na.com, (703)310-9752

Capability Statement:
QinetiQ North America delivers world-class technology and responsive solutions to government agencies and commercial customers for many of their most urgent and complex challenges. QinetiQ North America is an independent, innovative technology provider that earns over a billion dollars in revenue operating with small company speed and agility while leveraging significant global resources. More than 6,000 QinetiQ North America engineers, scientists and other professionals have the mission knowledge and proven, reliable performance to meet the rapidly changing demands of national defense, homeland security and information assurance customers. For more information, please visit www.QinetiQ-NA.com.

Paul Kantor - RUTGERS - paul.kantor@rutgers.edu, (732)322-8412

Capability Statement:
In prior work with KDD, we have developed a powerful open source software package, called BOXER, written in JAVA, that is now being integrated into the Blackbook test bed package and environment. BOXER supports binary (two classes) and polytomous (multiple classes) logistic regression modeling of arbitrary data, including texts, etc. BOXER is extensible without limits, as new concept groups, or class labels, are added to an ontology. Thus with BOXER it is possible to capture an analyst's model in a standard and extensible form. This will support, in proposed research, development of a suite of methods for model alignment, based on applying the several models to be aligned, to a body of relevant materials, and inferring the concept map between the models, from the resulting linkages. Rutgers has experts in machine learning, text classification, ontology, graphical analysis and inference from graphs. The underlying engine of BOXER, called BORJ, can be used in batch mode to support extensive off-line experiments for model validation and parameter selection.

We have demonstrated top performance in some entity resolution tasks, using multiple classification methods, and variations on model averaging. In other related work: We have implemented a higher order approach to developing prior parameters characterizing a class or model.

We have worked on finding very high order connections among entities in very large networks.

We have developed very powerful methods for hierarchical or tree-based decision making, which can invoke the most appropriate model or classification structure at each step in a sequential analysis, to provide optimal power from multiple models.

Names of key personnel will be available as appropriate to teaming discussions.

Rob Karl - Applied Research Associates, Inc. - rkarl@ara.com, (919)582-3300

Marty Kaszubowski - Earl Technology Group - MartyK@Earl-Ind.com, (757)376-7828

Capability Statement:
The Earl Technology Group (ETG) consists of seven member companies, along with strategic investments in ventures with related products and services. Each reflects ETG's over-arching goal, which is to promote broad-based situational awareness in a variety of operational situations and domains, by providing actionable intelligence directly to the decision-maker. In addition, the Earl Research team includes world-class innovators working collaboratively from throughout the world. Together, the ETG companies and research team represent a unique set of capabilities not heretofore available to the intelligence community.

Philip Kegelmeyer - Sandia National Labs - wpk@sandia.gov, (925) 294-3016

Capability Statement:
Sandia National Laboratories has distinguished capabilities in high performance computing, discrete mathematics, and network analysis. I currently serve as PI for the Sandia "Networks" Grand Challenge (NGC) LDRD project, a large, multi-million dollar, three year, internally funded project. The NGC is engaged in research and development across a broad range of sets of areas (including graph algorithms, scalability, uncertainty, platform development, data systems and processing architectures, and human factors) in support of analysis pursuant to Sandia's responsibilities in cyber security and technology surprise.

Stephen Kelley - Rensselaer Polytechnic Institute - stephen.j.kelley@gmail.com, (774)254-6400

Latifur Khan - University of Texas at Dallas - lkhan@utdallas.edu, (972)883-4137

Capability Statement:
I do research in semantic web, data mining and database systems. Right now, we are working on ontology alignment that will be integrated with Blackbook.

Omid Kia - ITT-SSD - Omid.Kia@ITT.com, (703)336-0929

Capability Statement:
Workflow and algorithm development in the general field of multimedia content processing. Design and development of knowledge management and collaborative systems. Automatic dissemination, notification and access control with mapping across geographical, social and cultural divides. Capture, store and understand disparate data sources with built-in knowledge discovery and distributed access mechanisms.

Joyce Korab - IARPA/IA/KDD - joyce.l.korab@ugov.gov, (240)373-5304

Jim Kraiman - Applied Signal Technolgy, Inc. - jim_kraiman@appsig.com, (703)478-5641

Capability Statement:
Applied Signal Technology, Inc. (AST) has 25 years of experience in the development and evaluation of advanced collection and analysis capabilities for DoD and the Intelligence Community. AST is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services in the areas of signals intelligence (SIGINT) and sensor signal processing for radar, sonar, electromagnetic and neutron imaging systems. Our expertise includes development of advanced data fusion algorithms exploiting supervised and unsupervised learning techniques for multi-variate anomaly detection and alerting, mining of text and feature-based sensor data, and Bayesian-based modeling and inferencing.

Steve Kramer - Paragon Science, Inc. - steve.kramer@paragonscience.com, (512)569-9760

Capability Statement:
Dr. Steve Kramer is a computational physicist and the President and Chief Scientist of Paragon Science, Inc., which offers a broad range software, research, and data analysis services for both government and commercial applications. Our general research and development areas include:

* data mining
* anomaly detection
* information fusion
* computational physics
* applied mathematics
* modeling of complex systems
* pattern formation in nonlinear systems
* numerical analysis

Travis Kuykendall - GMP - travis@gmpgov.com, (703)349-5254

Yannis Labrou - Fujitsu Labs of America - yannis.labrou@us.fujitsu.com, +1 410 493 5551

Lee Lacy - DRC - llacy@drc.com, (407)965-2804

Capability Statement:

Military ontology researchers and developers

Allan Lamb - Raytheon - arlamb@raytheon.com, (703)390-6000

Daniel Langleben - University of Pennsylvania - langlebe@upenn.edu, (215)222-3200 x196

Capability Statement:
(1) Inventor and developer of brain-imaging based systems for the detection of deception; (2) Applied and basic clinical research on social neuroscience, drug addiction, personality and their interactions; (3) Applied central (functional brain imaging) and peripheral nervous system (psychophysiological) measures of cognition, emotion and behavior; (4) Initiating and maintaining academia-industry collaborations.

1: Langleben DD, Loughead JW, Ruparel K, Hakun JG, Busch-Winokur S, Holloway MB, Strasser AA, Cappella JN, Lerman C. Reduced prefrontal and temporal processing and recall of high "sensation value" ads. Neuroimage. 2009 May 15;46(1):219-25.
2: Glocker ML, Langleben DD, Ruparel K, Loughead JW, Valdez JN, Griffin MD, Sachser N, Gur RC. Baby schema modulates the brain reward system in nulliparous women. Proc Natl Acad Sci U S A. 2009 Jun 2;106(22):9115-9.
3: Langleben DD, Dattilio FM. Commentary: the future of forensic functional brain imaging. J Am Acad Psychiatry Law. 2008;36(4):502-4.
4: Platek SM, Loughead JW, Gur RC, Busch S, Ruparel K, Phend N, Panyavin IS, Langleben DD. Neural substrates for functionally discriminating self-face from personally familiar faces. Hum Brain Mapp. 2006 Feb;27(2):91-8.
5: Langleben DD, Loughead JW, Bilker WB, Ruparel K, Childress AR, Busch SI, Gur RC. Telling truth from lie in individual subjects with fast event-related fMRI. Hum Brain Mapp. 2005 Dec;26(4):262-72.
6: Davatzikos C, Ruparel K, Fan Y, Shen DG, Acharyya M, Loughead JW, Gur RC, Langleben DD. Classifying spatial patterns of brain activity with machine learning methods: application to lie detection. Neuroimage. 2005 Nov 15;28(3):663-8.

Steve LeFevre - Intelligent Software Solutions - steve.lefevre@issinc.com, (571)481-9136

Capability Statement:
ISS is a leading edge software solution provider for enterprise and system data, services, and application challenges. ISS has built hundreds of operationally deployed systems, in all domains – “From Space to Mud and Everything Between”™. With solutions based upon modern, proven technology designed to capitalize on dynamic service-oriented constructs, ISS delivers innovative C2, ISR, Intelligence, visualization, fusion, collaboration and cyber solutions that work today and in the future. Key ISS projects include WebTAS, a powerful intelligence analysis, situational assessment and dissemination tool; CICOP, which provides the common operation picture for the CI community; CIDNE, the primary operations and intelligence reporting tool in CENTCOM AOR; CyberSWIC, an Air Force cyber C2 system; ISR-STAKE, a planning tool at operational level for theater and tactical ISR assets. ISS also has SME specializing in IED analysis, air domain and maritime domain analysis. ISS technical capabilities include a large cadre of Java JEE developers; web developers using JSP, JSF, Flash, Flex and Air; and a robust R&D group specializing in data mining, predictive analysis, machine learning, pattern recognition, fusion, and artificial intelligence.

Louis Lome - Irvine Sensors Corporation - louis.lome@verizon.net, (703) 524-8720

Capability Statement:
I am a retired Government R&D program manager who acts as a consultant to Government, industry, and academia. For the purposes of this meeting, I will be representing Irvine Sensors Corp. (ISC), a Government contractor known for its work in vision systems and 3D semiconductor based electronics. ISC has a current Government contract for a real time physical network layer security monitor. I will be investigating the possibility of exending this work to incorporate KDD capabilities at the physical layer.

Anthony Long - Global Technology Solutions - aelong@gtsnetwork.com, (703)310-6736

Capability Statement:
Global Technology Solutions, Inc. (GTS) is an information technology solutions company that provides professional services and IT solutions to government, Risk based, data sensitivity assessments to its private - Government clients throughout the U.S. and globally. GTS's strengths include delivering a broad range of services and solutions:

- Project –Program Management
- Systems Design & Implementation
- Network Security & Management
- Probability – Impact Analysis
- Modeling & Simulations – Weapon Systems
- Virtual ISO – Information Security Office
- Business Process Orientation
- Support of the Intelligence Community
- Telecommunication Design, Support & Implementation
- COOP / COG Planning & Implementation
- Risk Management, Financial Management

John Loth - 21st Century Technologies - jloth@21technologies.com, (703)344-8982

Capability Statement:
21CT provides powerful solutions to fill critical technology gaps faced by the government and large-scale commercial entities. Our technical capabilities include sensor exploitation (audio signal processing, image processing, computer vision), intelligence information (social network analysis, data mining, behavioral modeling, data fusion)and cyber (information assurance, network modeling and defense). We use our technologies to perform threat detection and analysis in large-scale search operations on real-world datasets. These capabilities aid in countering the asymmetric threat by providing understanding and anticipation of the adversary's behavior.

Tsai-Ching Lu - HRL Laboratories - tlu@hrl.com, (310)317-5187

Sofus Macskassy - Fetch Technologies - sofmac@fetch.com, (310) 414-9849 x247

Capability Statement:
Fetch Technologies specialize in large scale precision information extraction, integration and aggregation. We are commercially successful and have over a decade's worth of experience of transitioning advanced technology to commercial products. We have a government-funded R&D lab which are focused on researching and developing next-generation technologies in information integration (e.g., entity disambiguation and resolution) and information analytics (e.g., text mining and social network analysis).

Kamesh Madduri - Lawrence Berkeley National Laboratory - kmadduri@lbl.gov, (510)502-0857

Capability Statement:
My research interests are in parallel graph algorithms and scalable data management. I have several publications (see madduri.org) focusing on using efficiently parallel computers for solving large-scale graph problems that arise in social network analysis. I am interested in the "advanced analytic algorithms" research thrust of the KDD program.

Geoffrey Malafsky - Phasic Systems Inc - gmalafsky@phasicsystemsinc.com, (703)725-3143

Capability Statement:
PSI's DataStar product enables enterprise data unification in one product suite tying governance to data operations with Rich Internet Application. Innovative KORS semantic framework directly links knowledge, ontologies, rules, and semantic metadata with flexible classes in prebuilt templates. Rapid ontology and rule development from existing domain knowledge that are processed with PSI's Multi-Variate Evidence Transformation engine for sophisticated semantically unified data integration and cleansing.

Unite enterprise data into single common data environment rapidly using prebuilt semantic framework. Produce trustworthy authoritative data from multiple sources with differing business processes and data structures. Ensure accurate, consistent regulatory reports and enterprise architecture. Implement Master Data Management with direct connection of governance to data operations. Simplify managing critical data specifications and operations. Adapt quickly to changes in business requirements. Eliminate inefficient cost items with small IT footprint and automated end-to-end process.

KORS semantic framework for unified data environment. Multi-Variate Evidence Transformation (MVET) engine for real-world business-based data integration and cleaning. Services Oriented Architecture (SOA) application with streamlined AJAX web client-server communications

Modules:
Architecture: Manage critical data specifications (data dictionaries, code dictionaries, business & technical rules, ontologies) and produce regulatory reports (SarbOx, OMB-300, FEAF, DODAF) using simple templates and plain English.
Unification: Integrate data from multiple sources using real-world business logic to cleanse and merge data controlled by governance specifications. Perform BI analytics on source and unified data.
Services: Integrate into Services Oriented Architecture (SOA) for transactional processing and application Operational Data Stores (ODS)

Tony Mangerie - Exceptional Software - tony.mangerie@exceptionalsoftware.com, (410)694-0240

Dan Maxwell - IDI - dmaxwell@innovativedecisions.com, (703)409-7828

Capability Statement:
We specialize in decision analytic modeling. In the context of KDD this include Bayesian Networks, particularly for reasoning under uncertainty with large amounts of data, custom decision analytic models gving us significant experience in collaborative problem solving, and elicitation techniques for model development that can inform the design of effective collaboration systems.

Tom May - ASSETT, Inc. - tom.may@assett.net, (703)881-3555

Capability Statement:
ASSETT (Advanced Systems and Supportability Engineering Technologies & Tools) was founded in 2001, is comprised of experienced legacy IBM and Lockheed Martin architects, system engineers and program managers.

ASSETT's Data Integrity and Pedigree research work has resulted in an application that evaluates the provenance and factual reliability of data gathered from the Global Information Grid (GIG), enabling decision makers to understand information sources and reliability, and to make operational decisions based on evaluation of the most accurate information.

NC3, Guaranteed Data Integrity in the Global Information Grid Network Centric Enterprise Services (GIG NCES) Environment, is an OSD sponsored research topic administered by the Office of Naval Research (ONR). It is currently in Small Business Innovative Research (SBIR) Phase II and is a joint effort between ASSETT and the Computer Science (CS) Department of the University of Virginia (UVa). The project is addressing the issue of how an analyst, who has obtained information through discovery tools on the GIG, can make some assessment of its factual reliability. ASSETT and UVa are engaged in defining and demonstrating how pedigree metadata can be structured and associated with the original data and resulting analytical information to make it possible to construct the family tree of a higher level analytical result. Finally, given an actionable result, it now becomes possible to provide notification when an information producer makes a significant change to a critical piece of underlying information. This effort addresses three major issues related to IR: 1) What level of confidence can be placed in the factual accuracy of the information, 2) Assessment of whether the information being offered by multiple sources is truly independent or whether there is common ancestry at lower levels of aggregation, and 3) Notification to interested parties upon request should any specifically designated underlying data be revised.

ASSETT is also working closely with the Massachusetts Institute of Technology on development of human-systems interfaces, i.e., human/computer collaboration tools for analysts.

Liam M. Mayron - Harris Corp. - lmayron@harris.com, (321)984-5699

Capability Statement:
Harris conducts research in information and knowledge management, content-based query and retrieval, service-oriented architectures (SOA), the Semantic Web, ontologies, and RDF.

Kevin McCook - ASG Federal - kevin.mccook@asg.com, (703)464-1317

Capability Statement:
ASG is a leading software company producing data management, content management and IT performanace optimization software inclusive of Rochade metadata management repository capabilities for federating multiple data sources. www.asg.com

Kevin McEntee - Sensis Advanced Development - kevinm@sensis.com, (315)445-5724

Capability Statement:
Sensis AD performs research, development and demonstrations of advanced information management, fusion and security concepts for defense, air traffic management, and commercial applications.

Justin McFadden - ITT Space Systems Division - justin.mcfadden@itt.com, (703)342-1695

Don McGonigle - Battelle/CBRNIAC - mcgonigl@battelle.org, (410)935-9078

Capability Statement:
The CBRNIAC KM&D Program (operated by Battelle) accomplishes its mission providing clients with skilled domain experts and technology professionals that can:

1)Implement processes and technologies to support secured, sharable actionable information that lead to improved decision making
2)Identify, collect, classify, and categorize information via efficient storage, retrieval, and archiving
3)Characterize business processes that support the data
4)Create source data and information analytics, visualization, and simulation techniques and tools that aid in knowledge discovery

Mala Mehrotra - Pragati Inc. - mm@pragati-inc.com, (650)625-0274

Capability Statement:
Pragati provides innovative software solutions for sophisticated analysis of knowledge embedded in complex information systems to facilitate their reuse, interoperability, and quality assurance.
Pragati's unique clustering technology embedded in its tool suite, Expozé, enables domain and representation-independent analysis of knowledge bases, ontologies, schemas, databases and stylized natural language text.It exposes multiple
groupings of semantically similar entities within information systems. It then provides various perspectives to suitably unravel the inherent knowledge embedded in such systems. Expozé's clustering-based technology:
(1) Finds "collaboration groups," i.e., sets of terms that share the same operational context
(2) Detects partial or fuzzy relationships between terms that
exist within or across systems
(3) Reveals potential mapping regions across concept sets beyond those exposed by using substring matching and stemming
(4) Extracts recurring usage patterns that can serve as useful shortcuts for rapid reuse and componentization
(5) Discovers easily overlooked infelicitous knowledge entry patterns and incompletely specified knowledge

For more information please visit www.pragati-inc.com.

Jennifer Minton - Raytheon - Jennifer.minton-nr@raytheon.com, (703)390-8643

Dan Moldovan - Lymba - moldovan@lymba.com, (972)680-0800

Capability Statement:
Lymba is a provider of Semantic Technologies including: Extracting semantic knowledge from various forms of texts and images, Topic identification and tracking, Semantic clustering, Discovering and organizing knowledge from text into an RDF store, Semantic queering and Question Answering on RDF store, Common sense knowledge acquisition, Automatic ontology building and merging, Detecting logical and semantic inconsistencies. Lymba has built several software systems for the Intelligence Community.

Susan Mortensen - Johns Hopkins University Applied Physics Laboratory - susan.mortensen@jhuapl.edu, (443)778-2155

Michael D. Moskal - CUBRC - moskal@cubrc.org, (716)204-5120

Capability Statement:
CUBRC is a full service Government contractor providing research, development, testing and engineering services to a variety of U.S. Government customers as well as state and local governments. Founded in 1983 as a not-for-profit research organization, CUBRC operates several highly complex research and test facilities including: the World's most advanced and state-of-the-art hypersonic research and test facilities; state-of-the-art laboratory facilities certified to use highly toxic or lethal chemical and biological warfare agents. CUBRC's Information Exploitation sector's primary business focus is to provide expert, dedicated software and hardware engineering and development services to a variety of Government and commercial customers. Focused on transitioning technologies developed in the research laboratory into application-based products, CUBRC has developed and deployed both software and hardware systems through the entire technology development cycle, from basic research through systems prototyping and integration into fielded systems.

Rakesh Nagi - University at Buffalo (SUNY) - nagi@buffalo.edu, (716)645-4723

Capability Statement:
Graph Matching Applications in Blackbook and Intelligence Analysis

Jennifer Neville - Purdue - neville@cs.purdue.edu, (765)496-9387

Greg Newby - Arctic Region Supercomputing Center - newby@arsc.edu, (907)450-8663

Capability Statement:
The Arctic Region Supercomputing Center (ARSC) features multiple supercomputers, petabyte-scale storage, and a wide array of emerging hardware and next-generation technologies. With expertise in PGAS languages, hardware acceleration technologies, and traditional parallel programming, ARSC services a range of users across many scientific disciplines. ARSC has participated in NIST's TREC conference for numerous years, including the million query and terabyte tracks. Participation has focused on statistical analysis of very large matrices of words frequency occurrence. Analysis is via large-scale parallel eigensystems computation, statistical characterization, and visualization.

Alok Nigam - Global InfoTek - nigam@globalinfotek.com, (703)652-1600 x239

John O'Donovan - University of California, Santa Barbara - jod@cs.ucsb.edu, (805)451-9342

Capability Statement:
Led by Prof. Tobias Hollerer, our research group at UCSB specializes in visual and interactive node-link analysis tools for the web. The current team has rich experience in research and development of such tools. By combining facets from the fields of artificial intelligence, interaction, visualization, social and semantic web, our team has produced a browser-based node-link analysis system capable of scaling by orders of magnitude greater than any existing tool of its kind.
I am currently an associate specialist (post-doc) in this group. My specific research background focuses on trust, collaborative systems and personalization on the social and semantic web, including collaborative recommendation algorithms, online-auction trust modeling and interactive interfaces for such systems.

Paul O'Rourke - LGS Innovations, Bell Labs - porourke@lgsinnovations.com, (973)437-9764

Capability Statement:
- Programs for producing unified views of disparate data sources
- Unique compression algorithms that allows for forensic analysis of stored data
- Analytic algorithms for extracting intelligence from data

Randy Paffenroth - Numerica Corporation - randy.paffenroth@numerica.us, (970)461-2000

Capability Statement:
Numerica offers engineering and analysis services for customer's complex challenges in the following areas:

* Data Fusion
* Data Association Algorithms
* Tracking Theory, with Applications in
  - o Ground target tracking
  - o Missile defense
  - o Logistics
  - o Urban security
  - o Air defense
  - o Maritime target tracking
  - o Traffic monitoring
* Discrete Optimization Theory
* Linear and Nonlinear Estimation
* Signal and Image Processing
* Random Processes
* Modeling and Analysis of Radar and IR Systems

Wil Palmer - INSPIRING TECHNOLOGIES - wilpalmer@hotmail.com, (757)470-2089

George C. Pappas - Intelligenx, Inc. - gpappas@intelligenx.com, (703)955-4744

Capability Statement:
Intelligenx helps Federal Agencies provide a clear, understandable, view of their diverse data assets whether for internal use or for their public-facing websites. Intelligenx's technology, the Discovery Engine, is an advanced search and information management platform that allows user-driven navigation across multiple, very large scale data sets that can be scattered across the globe or located behind secure networks. Furthermore, Discovery Engine's indexing and search capabilities perform at very high volume with reliable, predictable, performance on inexpensive hardware.
We have solved the information management and discovery problems for some of the world's largest online directory publishers and business search providers. We develop and run websites today that serve several hundred million transactions per month across the North America, Latin America, and Europe.
We offer a complete solution consisting of our technology and experienced professional services to help agencies develop and deploy world-class websites that help users make sense of their large, fragmented, data resources.

Van Parunak - Vector Research Center, TTGSI - van.parunak@newvectors.net, (734)302-4684

Capability Statement:
1. Techniques for coordinating the actions of multiple humans through changes that they make in a common environment. In the context of KDD, this capability can allow analysts to leverage off of one another's actions.
2. An architecture for aligning different ontologies over the same space, demonstrated in an application for aligning product catalogs from different vendors.

Terry Patten - Charles River Analytics - tpatten@cra.com, (617)491-3474 x582

Capability Statement:
Semantic Web technologies, ontology alignment, social network analysis, network analysis tools, intelligence fusion, information extraction, intelligent agent technologies

Todd Pehle - Orbis Technologies, Inc. - tpehle@orbistechnologies.com, (314)359-9480

Tami Peli - Draper - tpeli@draper.com, (617)258-3608

John M. Pierre - Linguastat, Inc. - jpierre@linguastat.com, (650)773-4198

Capability Statement:
Linguastat, Inc. provides automated, self-serve, near real-time intelligence services to decisionmakers in business and government. Using proprietary linguistic technology developed for national defense, Linguastat automates the entire intelligence gathering, analysis, creation, and distribution process – turning mountains of raw information into high-value streams of timely operations-critical intelligence. Through its secure, flexible, scalable web-based intelligence application platform, Linguastat enables users to create their own automated intelligence feeds and distribute them to individuals and groups.

Linguastat is able to:
* Monitor and analyze large volumes of electronic information from disparate sources.
* Identify concepts of varying levels of abstraction (such as facts, events, statements, opinions, claims, and messages)
* Synthesize actionable intelligence
* Analyze trends over temporal, geospatial, or other user-defined dimensions
* Distribute customizable intelligence to individual users and groups via portal, email, or PDA
* Read, analyze, and continuously monitor any form of electronic text: web pages, emails, documents, messages, chat logs, transcripts, and other digital text.
* Target and capture any number of user defined messages: facts, statement, events, issues, opinions, concepts, and topics to cover any precise area of interest.
* Store all captured intelligence in an intelligence repository, which becomes a valuable resource for collaboration, re-analysis, and institutional memory.

Users can receive automatically-generated reports at any desired frequency.

Users can receive distilled, normalized, tabulated and/or displayed reports in any user preferred formats: text summaries, interactive tables, graphical timelines, maps, or real time interactive web widgets.

Dr. P - VIPMobile, Inc. - info@vipmobile.com, (415)632-1238

Capability Statement:
Facilitate applied research excellence by procuring US government contracts in support of our three development groups:
Design, assemble and support Intelligence, Surveillance, and Reconnaissance Systems
- Enhanced image capture and transfer software via SATCOM
- Find, fix, and finish software for UAV sensor payloads

Design, assemble and support small team tactical systems
- Software-defined radio communications
- Subsea communications and situational awareness for Naval Special Warfare

Design, assemble and support renewable energy solutions
- Space solar power and propulsion systems for NASA Glenn Research Center

Art Pope - SET Corporation - apope@setcorp.com, (703)738-6222

Kristin Precoda - SRI International - precoda@speech.sri.com, (650)859-2388

Capability Statement:
SRI International is a nonprofit research and development organization with a broad range of capabilities in areas including speech and language technology, machine learning, statistical modeling, video and image processing, and software engineering.

Rick Randall - NCI Information Systems - rlrandall@nciinc.com, (703)707-6622

Capability Statement:
NCI is a leading provider of information technology (IT), engineering, and professional services and solutions to U.S. Federal Government agencies. As an ISO 9001:2000-certified company, NCI's award-winning expertise encompasses areas critical to its customers' mission objectives, including enterprise systems management; network engineering; information assurance and cybersecurity; systems engineering and integration; program management, acquisition, and lifecycle support; engineering and logistics; medical transformation/health IT; and distance learning and training solutions. The company is a member of the Russell 2000 index. Headquartered in Reston, Virginia, NCI has approximately 2,500 employees and nearly 100 locations worldwide.

Al Reich - Potomac Fusion - areich@potomacfusion.com, (512)243-8864

Capability Statement:
Potomac Fusion, Inc.(PFI) is a small business that leverages rapid-paced advances in information technology to help satisfy the critical needs of its customers. We have developed a variety of data fusion services that combine data from multiple intelligence sources and provide the intelligence analyst the ability to analyze, filter, and visualize that data. PFI also has products and services that provide entity extraction, data management and content tagging of intelligence data. PFI delivered and maintains a secure web portal for analyzing and visualizing linked/related data.

Steve Reinhardt - Interactive Supercomputing - sreinhardt@interactivesupercomputing.com, (651)994-1080

Capability Statement:
ISC's Star-P product enables rapid development of large-scale parallel algorithms in the M language of MATLAB. Our Knowledge Discovery Suite implements optimized algorithms for (e.g.) graph analysis, dimensionality reduction, and clustering, many of them scaled to a billion entities with ten billion connections. We have considerable expertise in scalable computing, so we can also team to develop parallel versions of other algorithms.

Eric Rickard - Raytheon IIS - eric.c.rickard@raytheon.com, (703)236-5017

Capability Statement:
One of Raytheon IIS's core competencies is very large scale knowledge-based intelligence analytics of text, voice and raw collected intelligence. Much of our ongoing research is focused on developing the semantic capabilities necessary to perform simultaneous automated analysis at the knowledge, information and data layers of our customer's data repositories.

As a large system's integrator we are both a source of, and investor in, the most advanced knowledge-based technologies. We maintain an extensive network of relationships with universities, small businesses and government laboratories. These relationships enable us to collaborate with the best, most creative experts in a variety of analytic domains. In the end, our mission customers benefit because we provide a transition path to operational use that few companies can match.

We share IARPA's vision for technology investment. If you are not an active partner in our R&D efforts, AND you can prove you have a viable technology that could solve real problems, AND you have limited transition opportunities THEN you should contact us immediately. We solve real problems, for real analysts, with real data.

John Risch - Potomac Fusion, Inc. - jrisch@potomacfusion.com, (703)378-6031 x427

Capability Statement:
Theoretical and applied information visualization research; visual analytics technology; human-information interfaces; text and data mining; data and information fusion.

Joe Roden - Battelle Memorial Institute - rodenj@battelle.org, (410)306-8660

Capability Statement:
Battelle is a charitable trust organized as a non-profit corporation that develops, manages, and commercializes technology. Battelle is a multibillion-dollar enterprise that manages more than 20,000 scientists, engineers, technicians, and supporting specialists worldwide who conduct more than $4 billion of R&D each year. Battelle has a broad array of capabilities but with specific relevant expertise in information systems and advanced analytics. This expertise includes software engineering, visualization technologies, text analytics, ontology development, image analysis, hyperspectral algorithm development, advanced processing, data fusion and modeling & simulation.

Richard Rohwer - SRI International - rohwer@ai.sri.com, (858)350-2032

Capability Statement:
The Advanced Analytics group of SRI, located in San Diego, has strong capabilities in statistical pattern recognition, with particular strengths in unsupervised learning with unstructured data. We have a wider interest in machine cognition, including the application of statistical techniques to promote scalability and robustness in logical reasoning. SRI is a large organization bringing many more diverse capabilities in statistics, reasoning, AI, and many related fields.

Tom Sabo - Attensity - tsabo@attensity.com, (703)946-2744

Capability Statement:
Attensity is a leader in natural language processing based on computational linguistic methods which parses, tags, and extracts the facts trapped in unstructured and semi-structured text and expresses them as Subject:Predicate:Object and RDF OWL. Attensity has exposed this transform via an intuitive search interface and provides the ability for end users to Add Entity types and Targeted Events on the fly. Attensity exposes both its engine and its Knowledge Engineering Object (Dictionary) via API so it can interact dynamically with other semantic systems.

Laura H. Saher - Intelligence Solutions Division, L-3 Communications - Laura.Saher@L-3com.com, (210)293-9061

Capability Statement:
L-3 Intelligence Solutions is a division of L-3 Services, Inc. Intelligence Solutions has a two-decade track record of providing cutting-edge solutions and is a leader in all source intelligence support, information management, operations and security. Intelligence Solutions provides national and defense intelligence agencies and the Department of Defense's agencies, commands, and uniformed services with analysis, information solutions and systems support. Among the services Intelligence Solutions delivers are deployed Advanced Information Systems, HUMINT services, analytical services, special logistical services, mission-critical processes and systems engineering and training. The organization also provides and supports advanced concepts, research and development and state-of-the-art intelligence systems production. Using real-world experience and emerging technologies, Intelligence Solutions builds today's solutions for tomorrow's needs. Field combat units and national planners at all levels have access to the same operational, actionable picture through our proven, technologically advanced designs.

Gary S. Schebella - JMS System Science Corporation - gschebella@msn.com, (703)855-0566

Capability Statement:
Systems management, modeling and simulations, and assessment
Dynamic nets, sensor exploitation systems, decision support

Greg Scheyer - Semantic Research Inc. - greg@semanticresearch.com, (703)623-5499

Capability Statement:
SEMANTICA -- the groundbreaking network representation software from Semantic Research, Inc., is the only software product that is entirely based on semantic networks as a model for mapping the rich interconnectedness of all things.

Semantica is a true data fusion application that quickly and easily integrates knowledge from virtually any source (both structured and unstructured) by creating non-obvious linkages from disparate data sources and presenting a common knowledge framework. Networks can be also viewed over space and time utilizing integrated GIS functionalities.

Semantica provides an intuitive, graphical environment for data fusion, natural language processing and analysis allowing for enriched data discovery for decision making.

Kirk Schloegel - Honeywell - kirk.schloegel@honeywell.com, (763)954-6796

Capability Statement:
Scalable formulations and algorithms for data alignment and analysis

Bob Schrag - Global InfoTek, Inc. - rschrag@globalinfotek.com, (703)652-1600 x321

Capability Statement:
During 2008, GITI provided the semantic interoperability solution for IARPA's Tangram program to automate intelligence analysis workflows. Replacing an earlier contractor, we worked quickly to provide: a uniformly accessible semantic store conforming to an enterprise-wide ontology; a branching context representation to organize workflow components' analytical hypotheses; a logic programming-based, forward-chaining query language for components to access data from the store; and a software toolkit embracing all the foregoing to streamline the process of introducing additional legacy software components as semantically interoperable workflow building blocks.

David Schroh - Oculus - dschroh@oculusinfo.com, (416)203-3003

Capability Statement:
Oculus does research, design and development of innovative visual analytics systems for analysis and decision-making in complex information environments. For the IC, past performance includes GeoTime for the analysis of many thousands of events in time and space, nSpace for triaging massive data and analytical sense-making, and nCompass for SOA integration of advanced capabilities into IC environments. Analytic activity modeling from Oculus has been integrated into the core of the new Blackbook 2.8 release. Using the nCompass Analysis Log Service (ALS), indicators of analytic activity are stored, and then used to model analytic workflow to enable visual analytic services to be more adaptive to users, tasks and contexts.

Mark Segal - L-3 ISD - mark.segal@l-3com.com, (703)814-1892

Capability Statement:
L-3 Communications is the 8th largest defense contractor in the United States. Intelligence Solutions, a part of L-3 Solutions Group provides services and solutions to all components of the Intelligence Community.

Steven Seida - Raytheon - steven_seida@raytheon.com, (972)205-5768

Capability Statement:
Research Coordinator and integrator with government clearances, SCIFs, and staff who have been working with IARPA on KDD for about 2 years.

Elaine Shi - Palo Alto Research Center - eshi@parc.com, (650)644-5599

Luo Si - Purdue University - lsi@cs.purdue.edu, (765)496-9381

Capability Statement:
My research interests include information retrieval, machine learning, text (data) mining. Some research projects focus on distributed information retrieval, expertise search, intelligent tutoring system, text mining, and question answering. The projects have been supported by NSF, state of Indiana, and industry companies (http://www.cs.purdue.edu/~lsi).

Gary Singer - Harris GCSD - gsinger@harris.com, (321)917-3284

Capability Statement:
Harris conducts research in information and knowledge management, content-based query and retrieval, service-oriented architectures (SOA), the Semantic Web, ontologies, and RDF.

Brian Sisk - Applied Signal Technology, Inc. - brian_sisk@appsig.com, (703)478-5642

Benjamin Slocumb - Numerica Corporation - ben.slocumb@numerica.us, (970)461-2000

Capability Statement:
Numerica Corporation is a small business that is an internationally recognized leader for the research and development of advanced tracking and data/information fusion systems for defense and security surveillance applications. We provide solutions for complex information science challenges including: advanced engineering algorithms; scientific software systems; specializing in tracking, fusion, and signal processing; and we have a proven track record with DoD and Primes.

John Smith - Lockheed Martin IS&GS Global - john.b1.smith@lmco.com, (703)367-3407

Capability Statement:
Data Acquisition and analysis.

William Sokol - Attesnity - wsokol@attensity.com, (703)727-6445

Capability Statement:
Attensity is a leader in natural language processing based on computational linguistic methods which parses, tags, and extracts the facts trapped in unstructured and semi-structured text and expresses them as Subject:Predicate:Object and RDF OWL. Attensity has exposed this transform via an intuitive search interface and provides the ability for end users to Add Entity types and Targeted Events on the fly. Attensity exposes both its engine and its Knowledge Engineering Object (Dictionary) via API so it can interact dynamically with other semantic systems.

Rohini Srihari - Janya, Inc. - rohini@janyainc.com, (716)565-0401

Capability Statement:
Janya, Inc. is a language technology company providing solutions for multilingual information discovery from unstructured and semi-structured text. Janya's evolutionary text analytics capabilities go beyond simple entity extraction. Staffed by experts in natural language processing, automated content extraction, and machine learning, Janya delivers cutting edge products and customized applications. With experience in the defense, intelligence, homeland security, and law enforcement markets Janya is responsive to customer needs and requirements. Janya partners with complementary technology vendors and systems integrators to develop total solutions for the customer.

Semantex™, Janya's flagship product, extracts people, places, organizations, named and nominal entity types, general and pre-defined events, and generates rich profiles for each unique entity and event. The tool can establish relationship links between extracted pieces of information and can provide merged entity profiles for a collection of documents to aid in information discovery. Extraction requirements are all highly user-customizable through support for custom lexicons, grammars, and statistical models. The application of machine learning models and natural language processing techniques combine to provide a unique approach to deliver rich extraction output from a range of document types.

Semantex™ natively ingests and outputs XML to allow for maximum manipulation of target data. The Version 4.5 release of Semantex™ accepts Unicode UTF-8 text, allowing it accept to non-English languages in native script. Currently, extraction from Simplified Chinese is available. Semantex™ is also domain and document format independent, with support for multiple simultaneous configurations. Semantex™ is modularized and near-linearly scalable through a distributed architecture. It is also platform independent with support for Windows, Linux, and Solaris. Application modules communicate across platforms via CORBA. Semantex™ provides a SOAP interface as well as C++ APIs to enable easier integration with a range of document sources, search and retrieval engines, databases and storage applications, and visualization tools in a variety of workflows.

Jim Starz - Lockheed Martin ATL - jstarz@atl.lmco.com, (571)480-7559

Capability Statement:
Information (Semantic) Integration, Best-Effort Integration, Hybrid Schema Alignment Techniques

Tom Stephenson - BAE Systems - thomas.stephenson@baesystems.com, (781)273-3388 x4293

George Stone - Alion Science & Technology - gstone@alionscience.com, (703)657-9923

Capability Statement:
Systems Integration, Knowledge Discovery and Management, Data Enterprises, Simulation

Alan "Blaine" Stone - Circinus, LLC - alan.stone@circinus-llc.com, 703 286-5480

Capability Statement:
Circinus is a Veteran-Owned Small Business (VOSB) focused on providing strategic business consulting, operational intelligence support, program management, training and training development, intelligence analysis, technology integration, and other advisory services. We advise both government and commercial clients on the development and integration of advanced and emerging technologies to meet their needs. We have extensive experience in the research and development community.

Sean Stromsten - BAE Systems Advanced Information Technologies - sean.stromsten@baesystems.com, (781)262-4546

Capability Statement:

Mathematical modeling of various social data, data management, software integration.

George Tecuci - George Mason University - tecuci@gmu.edu, (703)993-1722

Capability Statement:
The Learning Agents Center at George Mason University (http://lac.gmu.edu) performs basic and applied research on developing cognitive assistants for intelligence analysts. For example, we have developed Disciple-LTA, a new type of analytic tool that can learn complex expertise directly from expert analysts, can support analysts in hypothesis analysis, collaboration and sharing of intelligence, and can teach its analytic expertise to new analysts. Disciple-LTA supports an analyst develop a Wigmorian inference network that assesses the likelihood of a hypothesis, by fusing information (evidence) from multiple sources. The developed analysis has a well-defined structure consistent with the Science of Evidence that shows how evidence is linked to hypotheses through arguments that establish the relevance, believability and inferential force or weight of evidence.

References:

Tecuci G., Boicu M., Marcu D., Boicu C., Barbulescu M., Disciple-LTA: Learning, Tutoring and Analytic Assistance, Journal of Intelligence Community Research and Development (JICRD), July 2008.
http://lac.gmu.edu/publications/2008/Disciple-LTA08.pdf

Schum D., Tecuci G., Boicu M., Analyzing Evidence and Its Chain of Custody: A Mixed-Initiative Computational Approach, International Journal of Intelligence and CounterIntelligence, Volume 22, Issue 2, pp. 298-319, 2009. Author Posting. © Taylor & Francis Group LLC, 2009.
http://lac.gmu.edu/publications/2009/Schum%20et%20al%20-%20Chain%20of%20Custody.pdf

Boicu M., Tecuci G., Schum D., Intelligence Analysis Ontology for Cognitive Assistants, in Proceedings of the Conference "Ontology for the Intelligence Community: Towards Effective Exploitation and Integration of Intelligence Resources," George Mason University, Fairfax, Virginia Campus, 3-4 December 2008.
http://lac.gmu.edu/publications/2008/Boicu%20IAO.pdf

Yosef Gavriel Tirat-Gefen - Castel Research Inc. - yosefgavriel@castelresearch.com, (703)426-0723

Capability Statement:
Mathematical Modeling. Artificial Intelligence. High Performance Computing. Signal Processing. Semantic Information Processing

Matt Tirman - Strategic Social - mtirman@strategicsocial.com, (571)338-7015

Capability Statement:
Emerging technology provider based out of Silicon Valley, Strategic Social's mission is to leverage the Social Web for National Security.

Ken Trefny - Lockheed Martin - kenneth.trefny@lmco.com, (720)344-1037 x123

Joseph P. Trien - Oak Ridge National Laboratory - TrienJP@ornl.gov, (865)241-9104

Maksim Tsvetovat, Ph.D. - George Mason University; Deep Mile Technologies - mtsvetov@gmu.edu, (412)519-4304

Capability Statement:
The mission of the Center for Social Complexity is "to advance the knowledge frontiers of pure and applied social science, by using and developing computational and interdisciplinary approaches that yield new insights into the fundamental nature of social phenomena at all levels of social complexity-from cognitive networks to the world system."

"Pure and applied social science" means both theoretical science and policy analysis. The Center subscribes to the philosophy of exploiting synergistic interactions between purely theoretical and applied policy research. Pure research and problem-oriented research can often profit from each other. The benefits of the pure-applied synergy have been amply demonstrated in the history of the social sciences (e.g., learning, human factors, organizations, governance, conflict resolution, peacekeeping), as well as in the life sciences and the physical sciences.

Deep Mile Technologies is working to advance the frontier in knowledge generation and analysis in the intelligence community. Its collaborative knowledge management solutions will be available shortly for demonstration and use on client sites.

Denise Varner - SWRI MDO - dvarner@swri.org, (410)717-1003

Capability Statement:
Southwest Research Institute (SwRI) is an independent, nonprofit applied research and development organization. The staff of more than 3,300 specializes in the creation and transfer of technology in engineering and the physical sciences.

Jeff Vetter - Georgia Tech and ORNL - vetter@computer.org, (720)239-2472

Hui Wang - Stevens Institute of Technology - hwang@cs.stevens.edu, (201)216-8736

John Weaver - Janya, Inc - jweaver@janyainc.com, (202)684-7053

Capability Statement:
Janya, Inc. is a language technology company providing solutions for multilingual information discovery from unstructured and semi-structured text. Janya's evolutionary text analytics capabilities go beyond simple entity extraction. Staffed by experts in natural language processing, automated content extraction, and machine learning, Janya delivers cutting edge products and customized applications. With experience in the defense, intelligence, homeland security, and law enforcement markets Janya is responsive to customer needs and requirements. Janya partners with complementary technology vendors and systems integrators to develop total solutions for the customer.

Semantex™, Janya's flagship product, extracts people, places, organizations, named and nominal entity types, general and pre-defined events, and generates rich profiles for each unique entity and event. The tool can establish relationship links between extracted pieces of information and can provide merged entity profiles for a collection of documents to aid in information discovery. Extraction requirements are all highly user-customizable through support for custom lexicons, grammars, and statistical models. The application of machine learning models and natural language processing techniques combine to provide a unique approach to deliver rich extraction output from a range of document types.

Semantex™ natively ingests and outputs XML to allow for maximum manipulation of target data. The Version 4.5 release of Semantex™ accepts Unicode UTF-8 text, allowing it accept to non-English languages in native script. Currently, extraction from Simplified Chinese is available. Semantex™ is also domain and document format independent, with support for multiple simultaneous configurations. Semantex™ is modularized and near-linearly scalable through a distributed architecture. It is also platform independent with support for Windows, Linux, and Solaris. Application modules communicate across platforms via CORBA. Semantex™ provides a SOAP interface as well as C++ APIs to enable

easier integration with a range of document sources, search and retrieval engines, databases and storage applications, and visualization tools in a variety of workflows.

Ralph Weischedel - BBN - weischedel@bbn.com, (617)873-3496

Capability Statement:
Ralph Weischedel is a Principal Scientist at BBN with over 30 years of experience in artificial intelligence, text understanding, and knowledge representation. He has directed research and development that involves probabilistic robust text understanding, information extraction, question answering, information retrieval, machine translation, distillation, semantic representation, and AI approaches to battle management. Dr. Weischedel has served as the PI or a technical lead on many DoD language processing projects. Dr. Weischedel has published over 80 refereed articles in journals, conferences, and books. He is a past president of the Association for Computational Linguistics.

BBN Technologies has approximately 45 years experience in research, development, and delivery of human language technologies, including speech (speech recognition, speaker identification, speaker clustering, spoken document retrieval, language identification, dialog understanding, and speech-to-speech translation); language understanding (mapping text to logic, information extraction for knowledge base population, question answering, document retrieval, evidence extraction for link analysis and language learning), and OCR from images and video. The approach is statistical learning algorithms, which are trained to process a new language; many projects are multi-lingual, e.g., processing English, Arabic, and Chinese, to name a few languages.

Dan Wells - Rockwell Collins Intelligence Solutions - dwwells@rockwellcollins.com, (703)453-7755

Capability Statement:
Rockwell Collins delivers intelligence solutions to DoD and the Intelligence Community that provide the maximum intelligence capability our governemt can provide anywhere in the world with on-time assured delivery.

Betty Whitaker - Georgia Tech Research Institute - betty.whitaker@gtri.gatech.edu, (404)407-6656

Capability Statement:
The Georgia Tech Research Institute team has capabilities and experience in applied artificial intelligence, knowledge-based reasoning, knowledge discovery and predictive modeling. They provided case-based learning technologies to be integrated into a multiple machine learning approach for DARPA Integrated Learning and predictive modeling capabilities for DARPA Deep Green. The team was part of an ARDA/ DTO NIMD program with a project called “Case-Based Reasoning for Knowledge Discovery” which investigated new tools to aid intelligence analysts in knowledge discovery. We are developing new techniques for human social cultural and behavioral modeling for ONR.

Geoff Whiting - Geoff Whiting - geoffrey_a_whiting@raytheon.com, (703)589-5504

Capability Statement:
Raytheon's end-to-end system provides two critical integrated capabilities, Digital detection, early in the negation chain and Automated C2 tool to generate and elect real-time response options.

Early warning Knowledge Exploitation (Kx) technologies greatly improve the Nation's ability to the detect intent of and negate asymmetric threats earlier in the kill chain when they are most vulnerable – during their planning, preparation, deployment phases, well prior to their execution phase. Kx sweeps the infosphere (data bases, internet, open sources, etc.) discover and track hostile intent by connecting the digital finger prints left in the infosphere during their planning, preparation, and deployment phases to aid detection earlier in the kill chain. The actionable intelligence discovered by the Kx system from the digital spectrum to provide an unprecedented robust game changing insight never before available to the operator and decision makers.

First, in real time, the ability to analyze the tsunami of threat data being captured to detect hostile behavior of those using asymmetric means. Secondly, automated ability to replicate C2 human judgment and subject matter expertise, not by a sequence of algorithms but instead by digitally storing well reasoned, preplanned COAs for evaluation, selection and execution during the crisis.

Threat Detection -Knowledge Exploitation
Knowledge exploitation techniques related to hostile intent recognition incorporate elements of information fusion, semantic processing, knowledge discovery, and user friendly visualization. Semantic processing focuses on the representation of knowledge in a machine, the extraction of knowledge from source material into that representation, and reasoning on that representation.

Michael Witbrock - Cycorp Inc - witbrock@cyc.com, (512)342-4003

Capability Statement:
Cycorp has extensive capabilities in knowledge representation and reasoning to support rapid integration and application of new knowledge sources. This capability includes the enormous, integrated Cyc ontology that provides pre-existing attachment points for new data sources, natural language mappings to aide integration, and an inference engine and large rule base for performing mappings. Cyc also has pre-existing connectors for SQL databases and SPARQL data-stores, to support integration and use of existing data.

Darrell Woelk - Telcordia - dwoelk@research.telcordia.com, (512)680-0780

Wayne Wright - L-3 Communications - wayne.wright@l-3com.com, (703)814-1855

Capability Statement:
L-3's Intelligence Solutions Division is interested in discussing potential teaming arrangements for KDD and other IARPA initiatives. L-3 ISD is seeking opportunities where its expertise in multi-source intelligence analysis and the application of intelligence products in various end-user environments will assist technology providers in the pursuit of truly relevant technology solutions.

Deb Yeagle - Solutions Made Simple, Inc. (SMSi) - dyeagle@sms-fed.com, (540)907-6789

Capability Statement:
Solutions Made Simple, Inc. (SMSi) has been providing Information Technology (IT) services to the Intelligence Community (IC), Department of Defense (DoD), and Department of Homeland Security (DHS) since its founding in 2002. SMSi's niche is supporting information sharing, data exchange, data enrichment, data integration, and data access in support of intelligence analysis applications for mission areas such as Counterterrorism (CT), Counterintelligence (CI), Indications & Warnings (I&W), Cybersecurity, and Law Enforcement.

SMSi provides data integration software and services for its clients based on the software applications included in its commercial software product, Twister Data Framework®. Twister-based applications have been successfully implemented at multiple sites and are authorized to operate on multiple government networks for data consolidation (structured and unstructured), federated query, and application integration projects.

SMSi's Twister Data Framework® software is used to rapidly and automatically ingest, integrate, correlate, and manage disparate data sources with different data models such as relational databases, streaming data, and unstructured, semi-structured, and structured text, and transforms data to make it usable for analysis. Twister Data Framework® includes the Twister Data Integrator and Twister Data Server. Twister Data Integrator allows massive amounts of data to be ingested, normalized, extracted and delivered in parallel. Twister is a high performance, parallel solution, running on clusters of commodity processors, which allows massive amounts of data to be processed by taking advantage of existing COTS hardware. Its graphical user interface, Twister Graph Designer, allows users to build custom data exploitation routines and XML web services by linking components via simple drag and drop actions. Once the data has been normalized, Twister can deliver that data in virtually any format. Twister Data Server provides a federated query capability. It integrates with the customer's access management system, allowing users to access data across multiple networks and in multiple formats. The Twister Data Framework® software suite enables organizations to manage their data holdings and provide access to those holdings by authorized users.

Allen York - Applied Research Associates - ayork@ara.com, (919)582-3300

Capability Statement:
applied research, C4ISR components and systems development, serious games, physics-based modeling and simulation, sensor fusion, sensor suite optimization, GIS systems, high-performance computing

Mohammed J. Zaki - RPI - zaki@cs.rpi.edu, (518)276-6340

Capability Statement:
We are developing novel, high-performance, advanced analytic methods for massive complex graphs and networks. Our research goal is to develop an integrated framework for mining, learning, reasoning and indexing very large (possibly unbounded) enriched graphs and networks, that are distributed, dynamic and uncertain. Example application domains include social networks, biological networks, and semantic networks and ontologies (in form of RDF graphs). Example tasks include motif discovery, graph clustering, pattern sampling, link prediction, and rapid ad-hoc querying and reasoning.

Chengcui Zhang - The University of Alabama at Birmingham - zhang@cis.uab.edu, (205)934-8606

Capability Statement:
Multimedia Data Mining, Spatio-temporal data mining, Bioinformatics