

SECURBORATION, INC.



TECHNOLOGY COMPETENCE

We enhance many traditional approaches to difficult analytic problems by establishing and exploiting formal domain models to provide flexible and robust systems to our customers which can evolve with rapidly changing mission requirements.

WORKFORCE STABILITY

The stability and longevity of our workforce speaks to the talented and committed nature of our staff. Our stability as a technology company is evidenced by our high rate of follow-on work with repeat customers.

COLLABORATION

- Dartmouth College
- North Carolina State University
- Carnegie Mellon University
- University of Washington
- Vanderbilt University

OUR APPROACH

Our systems integrate into net-centric and service-oriented environments, used in industry and Government, where collaborative solutions across distributed environments draw on a variety of technologies, algorithms and heterogeneous data sources. The technologies employed include, but are not limited to, Semantic Modeling, Natural Language Processing, Information Extraction, Cyber Defense, Adaptive Technologies supporting multi-core computing, Document Clustering, Social Media link analysis and behavior detection, and Bayesian inference and probabilistic reasoning systems. Past collaborations include researching key areas in Socio-cultural modeling, Cyber warfare, Counter Insurgency (COIN) and stability operations, multi-core computing and Effects-based assessment.

Securborator, Inc. has evolved from a small, research oriented company to a company that excels in transitioning research into operational solutions for both the public and private sectors. Since inception, Securborator has been awarded 80+ DoD and IC related contracts, most notably Small Business Innovative Research (SBIR) contracts. Securborator has participated in all three phases of the SBIR program: initial research and proof-of-concept (Phase I), full-scale development (Phase II) and commercialization (Phase III). Successes in this program have paved the way to growth and continual opportunities to provide robust, full-scale solutions that leverage all corporate capabilities. Securborator has also transitioned significant elements of our research efforts to customers such as USTRANSCOM, USAF Reserve Command and USCENTCOM.

AWARDS & ACCOLADES

2010: Awarded Phase III SBIR IDIQ for Semantic Interoperability from the Air Force Research Laboratory (5 yrs. with \$50M ceiling)

2010: Transitioned Cyber Security system to the US Transportation Command through a Program of Record, representing a shift to long-term continuous funding of programs through the Congressional Program Operating Memorandum (POM). (\$1.8M)

2010: Named one of the "50 Florida Companies to Watch for 2011" by the Florida Economic Institute at the University of Central Florida, and ACG Florida, in association with the Edward Lowe Foundation.

2011: Awarded a J6 Silver Star from Brig. Gen. Gregory J. Touhill, CIO, U.S. Transportation Command as one of three finalists for the 3rd Annual SOA and Semantic Technology Symposium "best of show" case study contest.

2013: Awarded a contract from the U.S. Air Force to automate classification and releaseability marking of intelligence data by using metadata tagging to speed sharing of information between multiple, independent security domains. (\$2.5M)

2013: Awarded a contract from the U.S. Air Force to research link analysis of knowledge extracted from social media communications. (\$1.1M)

COURSE OF ACTION RECOMMENDATION SERVICES (COARS)

COMPANY SNAPSHOT:

Extensive DoD Experience
 NAICS Code: 541511, 541712
 DUNS#: 038379579

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The Navy's planning process ultimately results in a selected Course of Action (COA). The COA, in turn, is composed of a set of Lines of Operations, which are logical lines that connect actions on nodes and/or decisive points related in time and purpose with objectives. Lines of Operations developed in the planning phase are based on a set of assumptions about the expected execution phase' operational situation. The dynamic nature of warfare nearly guarantees that the actual operational situation will deviate from the assumed operational situation utilized in planning. Consequently the recommended COA needs to be dynamically adjusted as new data becomes available during mission execution. However C2 operators that are already overburdened assessing incoming situational awareness data have little time to engage the important task of evaluating the operational situation with respect to the selected COA and stated operational goals/objectives. The deviations require branch plans and sequel actions to accommodate emergent operational events, which causes cascading effects throughout planning and operations.

The Navy's vision for a COA recommender includes (1) Understanding human entered COA, (2) Identifying contextually relevant features from the COA, (3) Discovery, tailoring, and routing of data that is relevant to the COA during mission execution, (4) Analysis of what that information means with respect to the COA and (5) Recommended COA adjustments (branching plan and sequel actions). Securboration brings novel capability to areas 4 and 5. Our approach with COARS is unique in that it treats the operational environment as a complex system, one in which COA recommendations are based on non-linear emergent goals, beliefs, and actions among the actors within the operational environment.

COARS incorporates emergence in the operational environment by employing an intent model which represents COA intentions by modeling beliefs, goals, and actions using the probabilistic representation and reasoning capabilities of Bayesian knowledge bases (BKBs). This allows COARS to recommend COA that include considerations of emergent behavior in the operational environment and unfolding events. Actors within our model can be single individuals, groups of people, or governmental, corporate, or other non-governmental organizations

