The Defense Human Resources Activity (DHRA) SBIR Program seeks small businesses with strong research and development capabilities to pursue and commercialize technologies.

Broad Agency Announcement (BAA), topic, and general questions regarding the SBIR Program should be addressed according to the DoD SBIR Program BAA. For technical questions about a topic during the pre-release period, contact the Topic Author(s) listed for each topic in the BAA. To obtain answers to technical questions during the formal BAA period, visit https://www.dodsbirsttr.mil/submissions.

PHASE I PROPOSAL SUBMISSION

Follow the instructions in the DoD SBIR Program BAA for program requirements and online proposal submission instructions.

DHRA SBIR Phase I Proposals have four Volumes: Proposal Cover Sheets, Technical Volume, Cost Volume and Company Commercialization Report. Please note that the DHRA SBIR will not be accepting a Volume Five (Supporting Documents) as noted at the DoD SBIR website. The Technical Volume has a 10-page limit including: table of contents, pages intentionally left blank, references, letters of support, appendices, technical portions of subcontract documents (e.g., statements of work and resumes) and any other attachments. Do not duplicate the electronically generated Cover Sheet or put information normally associated with the Technical Volume in other sections of the proposal as these will count toward the 10-page limit.

Only the electronically generated Cover Sheet and Cost Volume are excluded from the 10-page limit. Technical Volumes that exceed the 10-page limit will be reviewed only to the last word on the 10th page. Information beyond the 10th page will not be reviewed or considered in evaluating the offeror’s proposal. To the extent that mandatory technical content is not contained in the first 10 pages of the proposal, the evaluator may deem the proposal as non-responsive and score it accordingly.

Note: The Company Commercialization Report (CCR) will NOT be available during the 20.3 BAA cycle. No Commercialization Achievement Index (CAI) will be generated. The CCR will be available for future DoD BAA cycles. If the CCR is available at the time of the Phase II submission for any awarded Phase I efforts resulting from this BAA, the proposing firm is required to submit the CCR for its Phase II proposal.

Companies submitting a Phase I proposal under this BAA must complete the Cost Volume using the online form, within a total cost not to exceed $256,000.00 over a period of up to six months.

Proposals not conforming to the terms of this BAA, and unsolicited proposals, will not be considered. Awards are subject to the availability of funding and successful completion of contract negotiations.

EVALUATION CRITERIA

Proposals will be evaluated based on the criteria outlined below. Selections will be based on best value to the Government considering the following factors which are listed in descending order of importance:
a. The soundness, technical merit, and innovation of the proposed approach and its incremental progress toward topic or subtopic solution.
b. The qualifications of the proposed principal/key investigators, supporting staff, and consultants. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.
c. The potential for commercial (Government or private sector) application and the benefits expected to accrue from this commercialization.

Cost reasonableness and realism shall also be considered to the extent appropriate.

Technical reviewers will base their conclusions only on information contained in the proposal. It cannot be assumed that reviewers are acquainted with the firm or key individuals or any referenced experiments. Relevant supporting data such as journal articles, literature, including Government publications, etc., should be contained or referenced in the proposal and will count toward the page limit.

TECHNICAL INQUIRIES

During the Pre-release Period of the DoD 20.3 SBIR Broad Agency Announcement (BAA), any questions should be limited to specific information that improves the understanding of a particular topic’s requirements. All questions must be submitted in writing either by email to the TPOC listed or posted in the online SBIR/STTR Topic Q&A portal (formerly SITIS) – all questions and answers will be released to the general public. All inquiries must include the topic number in the subject line of the e-mail.

During the Open Period, all questions must be posted in the online Topic Q&A portal (formerly SITIS). Please follow the instructions in section 4.13.d of the DoD 20.3 SBIR BAA Instructions.

PROPOSAL SUBMISSION

In order to participate in the DHRA SBIR Program, all potential proposers should register on the DoD SBIR/STTR Web site at https://www.dodsbirsttr.mil/submissions as soon as possible. This site contains step-by-step instructions for the preparation and submission of the complete proposal. It is required that all proposers submit their proposal electronically through the DoD SBIR/STTR Proposal Submission Web site at https://www.dodsbirsttr.mil/submissions. For general inquiries or questions about the proposal electronic submission process, contact the DoD SBIR Help Desk at DoDSBIRSupport@reisystems.com (9:00 a.m. to 5:00 p.m. ET).

Proposals shall be submitted in response to the specific DHRA topic identified in the topic description section following these instructions.

DHRA does not provide Direct Technical and Business Assistance (TABA).

DHRA SBIR Program Point of Contact:

General inquiries concerning the DHRA SBIR Program should be addressed to:

   Ms. Tammy Proffitt, SBIR Program Manager
   Tammy.j.proffitt2.civ@mail.mil
OSD DHRA SBIR 20.3 Topic Index

OSD203-004  Domain-Specific Text Analysis
OSD203-005  Modernization of Biometric Capture
TITLE: Domain-Specific Text Analysis

RT&L FOCUS AREA(S): Artificial Intelligence/Machine Learning
TECHNOLOGY AREA(S): Information Systems; Human Systems

OBJECTIVE: Develop text analysis software that leverages current Natural Language Processing (NLP) algorithms and techniques, (e.g., Bayesian algorithms, word embeddings, recurrent neural networks) for accurately conducting content and sentiment analysis, as well as dictionary development.

DESCRIPTION: The United Stated Department of Defense (DoD) collects large amounts of text data from their personnel using a variety of different formats including opinion/climate surveys, memoranda, incident reports, standard forms, and transcripts of focus group/sensing sessions. Much of these data are used operationally; however, recent interest in the leveraging of text data to glean insight into personnel trends/behaviors/intentions has prompted a greater degree of research in NLP. Additionally, Topic Modeling and Sentiment Analysis have been explored by various research arms of the DoD; however, two foundational hurdles exist that need to be addressed before they can realistically be applied to the DoD:

First, the varied use of jargon, nomenclature, and acronyms across the DoD and Service Branches must be more comprehensively understood. Additionally, development of a “DoD Dictionary” should enable the fluid use of extant and newly-created jargon, phrases, and sayings used over time.

Second, the emergent nature and rapid innovation of NLP techniques has made bridging the technical gap between DoD analysts and tools difficult. Additionally, the understanding and interpreting of NLP techniques by non-technical leadership is particularly difficult. There currently exists no standard format or package that can be used to analyze and develop visualizations for text data in such a way that accommodates the needs of operational leadership to make decisions regarding personnel policies or actions.

PHASE I: Expectations for this Phase I feasibility study include, but are not limited to, a white paper detailing software designed to assist the user in:

- Summarizing key content across a range of sources or in a single document
- Capturing document-germane sentiment, assessing the tone, intent, and social content
- Determining the reasons for themed statements
- Identifying relationships among themes
- Effectively parsing and combining findings, such as aggregate results by service, occupation, or other demographics. where possible
- Accommodating the plethora of DoD, Service, and DoD civilian nomenclature, jargon, and acronyms

Design of the user interface may be primarily icon-driven, and should be intuitive and easy to maneuver for those with limited technological experience. At the same time, the program should include accessible syntax using, or derived from, one or more open source programming languages for transparency and customization for more technically-adept users. Efforts should also address how the software could provide hints to users regarding candidate issues/topics to include, along with candidate contexts to consider including in the detailed analysis, based on a preliminary analysis of the text.

PHASE II: The Phase II effort shall take the white paper solution to development and software pilot and address the following key requirements in implementation:
1) Accommodating domain-specific terms (words, phrases, sayings) into a comprehensive and flexible dictionary that can be regularly/continuously updated with information regarding the sentiment associated with DoD-specific terms, as well as any incipient or ubiquitous meanings/sentiment associated with otherwise universal words or terms.

2) Maintainable and updatable software solution for conducting NLP text analysis and briefing the results using domain-specific sentiment/understanding, i.e., a GUI or other easily workable “dashboard” for non-technical users to leverage in such a way that they can identify, track, and communicate potential trends and (where possible) forecast areas of concern (i.e., user-identified “hot button” topics) with regard to personnel opinions, attitudes, or contemplated or disclosed behaviors that may require attention by non-technical leadership.

PHASE III DUAL USE APPLICATIONS: Examples of Phase III military applications include: A persistently running text-analysis platform capable of automatically identifying emerging patterns or areas of concern in any of the DoD’s free-text data collection efforts. These may include, but are not limited to, personnel satisfaction surveys, standard forms, incident reports, and the like. Examples of commercial applications include: A flexible software platform enabling corporate-level analysis of text-data to potentially include opinion/climate surveys, HR forms, or complaint reports to identify emerging trends in personnel attitudes/behaviors.

REFERENCES:

KEYWORDS: Artificial Intelligence Software, Natural Language Processing Software, Automated Text Summarization, Text Analytics, Predictive Modeling, Corpus, Word Recognition, Topic Modeling, Concept Drift
TITLE: Modernization of Biometric Capture

RT&L FOCUS AREA(S): Cybersecurity
TECHNOLOGY AREA(S): Information Systems

OBJECTIVE: Develop a concept for capturing iris scans. Conceptualize and design an innovative biometric repository for capturing facial scans.

DESCRIPTION: DMDC can collect 10-fingerprint collections, iris scans, and facial scans from various sources. The primary population for biometric collection by DMDC consists of “Blue Force” personnel, such as Service Members, DoD Contractors, and DoD Civilians and Family Members. Upon capture of these biometrics, DMDC must ensure there are robust storage capabilities that are adequately protected and capable of processing stored biometrics for identity resolution and authentication efficiently.

Biometric data gathering and storage technology exists today. However, the integration of stored biometric data for the use of identity verification and authentication is limited and not widely used. The purpose of this research is to provide analytical and laboratory studies applying research to perform advanced technology development to integrate stored biometric data technology with verification and authentication technologies.

PHASE I:

- Design a concept for capturing, storing, and using biometrics for person verification and authentication
- Design/develop an innovative concept along with the limited testing of materials for the above
- Provide a plan for practical deployment of the proposed concept.

PHASE II: Phase II will involve the following: COA 1) Leverage the findings from Phase 1, develop and demonstrate a prototype; COA 2) Develop concept for capturing iris scans; COA 3) Conceptualize and design an innovative biometric repository for capturing facial scans. The TRLs for this phase are:

- Non-Hardware and Software - TRL #7
- Hardware and Software – TRL #6

PHASE III DUAL USE APPLICATIONS: This research has the potential to strengthen proofing and authentication controls to DoD networks and physical buildings. The results will be applicable to other federal agencies and the commercial world to enhance security for online banking, ecommerce, and protecting data. It would provide methods for government agencies and corporate entities to capture and validate biometrics as a form of identity proofing, verification, and authentication instead of in person proofing or less secure forms of authentication. Many agencies and corporations need this capability to securely provide self-service online services.

REFERENCES:

1. Technology Insight for Biometric Authentication, Gartner, 2018;
2. Department of Defense Instruction 1000.13 Identification (ID) Cards for Members of the Uniformed Services, Their Dependents, and Other Eligible Individuals, Department of Defense, 2017
7. Regulation 680-3 Personnel Information Systems Entrance Processing and Reporting System Management, United States Military Entrance Processing Command, 2018

KEYWORDS: Identity Management, Biometrics, Facial Recognition, Authentication, and Identity Verification.