SOCOM224-D003: Low/No Code Data Manipulation and Discovery for Special Operations Forces

ADDITIONAL INFORMATION

N/A

TECHNOLOGY AREAS:

Information Systems

MODERNIZATION PRIORITIES:

Artificial Intelligence/ Machine Learning | Control and Communications | General Warfighting Requirements (GWR) | Network Command

KEYWORDS:

Data Science, Data Analytics, Low Code, No Code, Data Discovery, Data Manipulation, Data Inference, Low Code Tools, No Code Tools, Special Operations Forces

OBJECTIVE:

Develop a software system and supporting training documentation that enables end users with limited or no coding experience the ability to take one or more datasets, and transform, combine, plot, and generally manipulate them to answer a question or achieve inference of said data.

ITAR:

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), 22 CFR Parts 120-130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the Export Administration Regulation (EAR), 15 CFR Parts 730-774, which controls dual use items. Offerors must disclose any proposed use of foreign nationals (FNs), their country(ies) of origin, the type of visa or work permit possessed, and the statement of work (SOW) tasks intended for accomplishment by the FN(s) in accordance with section 3.5 of the Announcement. Offerors are advised foreign nationals proposed to perform on this topic may be restricted due to the technical data under US Export Control Laws.

DESCRIPTION:

High level data analytics and in extension data scientists are rarely available to Special Operations Force (SOF) Commanders conducting missions due to placement and access and expertise of the unit composition. This creates a gap in what is within the realm of technological possibility and what SOF users have access to. This effort is intended to bridge the gap between operational knowledge and data analytics knowledge. Simply put, SOF end users with years of operational experience need to be enabled at the lowest possible complexity to transform disparate, ad-hoc data sets to be compatible with, and loaded into various other systems for data analytics support to SOF missions. This will enable next generation data analytics capabilities to act as a force multiplier at the lowest tactical level without a need for specialized data analysts or other support that may not be available at the tactical edge.

The subject effort will rely on innovative research into simplifying complex tasks and methodologies into a form that is digestible by users with little or no data scientist related training. Research will be into novel ways to present complex theories, processes and products in a way that is easily trained and implemented across the SOF formation.

PHASE I:

Conduct a feasibility study to assess what is in the art of the possible that satisfies the requirements specified in the above paragraphs entitled “Objective” and “Description.”

The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study (“Technology Readiness Level 3”) to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all options that meet or exceed the minimum performance parameters specified in this write up. It should also address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments and laboratory studies as necessary.

Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be selected for Phase II.
NOTE: This topic is accepting Direct to Phase II (DP2) proposals only. Proposers interested in submitting a DP2 proposal must provide documentation to substantiate that the scientific and technical merit and feasibility described above has been met.

PHASE II:

Develop, install, and demonstrate a prototype system determined to be the most feasible solution during the Phase I feasibility study on a low/no code data manipulation and discovery software application.

PHASE III DUAL USE APPLICATIONS:

This system could be used in a broad range of military applications where data scientists and other qualified individuals are unavailable at a tactical level. The commercial applications of this technology are also feasible where lower expertise users could contribute to data manipulation and inference at a significantly reduced cost.

REFERENCES:

1. Democratizing AI With Low-Code and No-Code Machine Learning Platforms: https://www.g2.com/articles/low-code-and-no-code-machine-learning-platforms
2. Low Code Data Science Is Not the Same as Automated Machine Learning: https://www.knime.com/blog/low-code-analytics-platform

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