

Department of the Navy SBIR/STTR Transition Program

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Topic # N193-A01

Improving Acquisition Processes through Machine Learning and Automation

TeamWorx Security, LLC

WHO

SYSCOM: NAVAIR

Sponsoring Program: NAVAIR SBIR Program Office

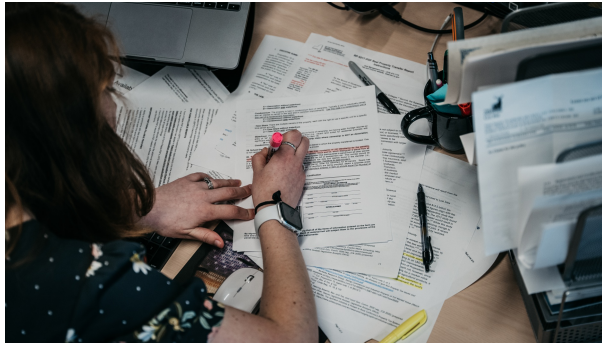
Transition Target: NAVAIR Office of Procurement

TPOC:
(301)342-4781

Other transition opportunities: US Navy and USMC Echelon 1, 2, and 3 Acquisition Program and Procurement Offices. Other DoD procurement offices. Federal procurement offices or entities that must summarize and analyze labor- and data-intensive documents.

Commercial entities working in IT systems integration to include CIOs and prime contractors.

Notes: Image represents standard business office activity before automation



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WHAT

Operational Need and Improvement: Contracting offices are required to analyze large volumes of numerical and textual data when evaluating contract proposals. NAVAIR has an overabundance of contract actions and proposals to evaluate, challenging and stretching labor, time, and financial resources. INDEX is a technology solution that automates this evaluation by employing Artificial Intelligence (AI), Natural Language Processing (NLP), and Machine Learning (ML) technologies. INDEX automates large amounts of structured and unstructured numerical and textual data accurately. As a result, labor workload is reduced while the level of accuracy of the automation is increased. This allows allocation of resources to higher-level and mission-priority activities rather than highly manual, repetitive, error-prone tasks.

Specifications Required: INDEX is approximately 170 times faster reading documents, taking only ~45 seconds to read 1,000 words in contrast to the 3 minutes required by human readers. Additionally, it is 40 times faster reporting and summarizing documents, taking ~13 minutes to produce a 20-page report that requires ~33 hours of an analyst's time.

Technology Developed: INDEX accelerates digital work streams, achieves cost savings by reducing working hours and technological overhead, and increases productivity at scale. By automating customized content for contracts, forms, and memos, our product significantly reduces the amount of labor and effort required for back-office applications and/or day-to-day business. The technology organizes, extracts, and generates both textual data (keywords, narrative, summaries) and numeric data (equations, rates, adjustments) from documents, spreadsheets, and unstructured data. It then represents this data in an easy user interface that allows users to view, select, and search key data to more quickly and accurately auto-populate reports in accordance with the FAR. Data is generated using a combination of NLP, ML, and AI methods.

Warfighter Value: INDEX can observe a cost savings of thousands of labor hours annually, and similar outcomes can be expected for equivalent use cases. INDEX saves time and reduces the human effort required to read and parse textual data, and it accelerates an analyst's understanding of data by extracting original textual content into summarized content for the user. Our automated process transfers repetitive and labor-intensive tasks from the human to the technology.

WHEN

Contract Number: N68335-20-F-0574

Milestone	Risk Level	Measure of Success	Ending TRL	Date
R&D	Med	Implement UI to improve user journey, reduce labor cost, and increase system efficiency	3	July 2021
R&D	Med	Demonstrate automatic summaries using NLP, NLU, and NLG models	3	September 2021
R&D	Med	Integrate results from research and testing into final prototype design	4	November 2021
R&D	Low	Identify cost and feasibility of integration with mission-specific systems of potential customers	4	July 2021
R&D	Med	Deliver an operational prototype system; enable analysts to quickly visualize and interpret data	4	November 2021

HOW

Projected Business Model: Our primary business model is to license the technology directly to the Government. Alternatively, we are willing to license to system integrator Primes.

Company Objectives: TeamWorx Security is interested in discussing INDEX's capabilities with program management, contracting officers, contracting specialists, TPOCs, and anyone responsible for large scale document review. We are looking for exposure to organizations responsible for programming, contracting, and those who assesses large amounts of numeric and textual data. This technology can be applied to other data intensive documents to save human analysts' time, improve speed, efficiency, and accuracy.

Potential Commercial Applications: This technology has broad dual-use applicability to any program or business office where text documents are used to create analysis summary, such as systems engineering review activities, developmental and operational test and evaluation activities, procurement planning, cost-estimating and evaluations. It could have commercial application in the healthcare, commercial aviation, and civilian transportation industries where the automation of highly manual and error-prone text analysis processes can improve business outcomes.

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