CLOUD MADE EASY

DATA ANALYTICS AND AI LAB CASE STUDY

CHALLENGES

The utilization of emerging technologies in procurement and acquisition has come a long way from previous years. Artificial Intelligence, machine learning, and natural language processing have reached a new level of development, offering numerous capabilities to explore across various applications. The time is right for industry, government, and academia to collaborate and explore the potential applications of these technologies using publicly available data and regulations.

The Advanced Technology Academic Research Center (ATARC) was formed to continue the dialogue between government, industry, and academia in response to the release of the Digital Government Strategy. ATARC needed a Data Analytics Lab as a space for developing and exploring products and solutions that advance acquisition processes, making them easier for all parties involved. By utilizing the expertise of experts from government, industry, and academia, the Lab facilitates partnerships and enables the development of tools that benefit the entire acquisition community. It serves as a platform for answering basic questions, performing analysis, and detecting problems and anomalies within statutes, regulations, and contract requirements.

SOLUTION

The Anantyx Mission Lab platform deployed in AWS cloud has become the cornerstone of the ATARC Data Analytics and Artificial Intelligence Lab (ADAAL). This groundbreaking Lab in partnership with AWS provides a secure FedRAMP environment for the government to harness state-of-the-art tools. Its primary goal is to rapidly explore and comprehend the potential applications of Analytics and/or AI to deliver actionable information that aids decision-making processes across the Federal Government.

By utilizing the Anantyx Lab, government entities can gain valuable insights into how Analytics and AI can optimize their operations and improve outcomes. The secure nature of the Lab ensures data confidentiality and integrity while enabling rigorous experimentation and analysis. This empowers decision-makers to make informed choices based on evidence-driven insights derived from advanced technologies.

Furthermore, the Lab serves as a collaborative hub, fostering effective partnerships between industry and Federal agencies. Within this unified environment, stakeholders can collaborate seamlessly, sharing knowledge, expertise, and resources to drive innovation and address complex challenges collectively. This collaborative approach accelerates the development and deployment of impactful Analytics and AI solutions, benefiting both the government and industry as they work towards common goals.

RESULTS

ADAAL undertakes the development, research, communication, and management of a set of use cases provided by various agencies. One of these use cases specifically focuses on addressing the necessary improvements in Small Business utilization by Federal agencies. Currently, there is a lack of connection and networking between the government and Small Businesses, hindering their collaboration. To gain a better understanding of this issue, the government must leverage data analytics and AI/ML to make better use of existing utilization data. By comprehending the data more effectively, targeted strategies can be developed to maximize small business participation in the Information Technology category.

Recognizing the significance of this issue, the GSA approached the ATARC ADAAL to create a Spend Analysis prototype centered around analyzing contracts awarded by multiple agencies during the past few years. The prototype primarily focused on analyzing data provided for376,000 contracts which represented awards made between 2017 and 2021 by GSA, DOJ, HHS, and the DOD. Leveraging the Anantyx Lab, ATARC enabled the implementation of the EurekaAI Platform. This platform combines the only commercially available implementation of Topological Data Analysis (TDA) with a wide range of machine learning, statistical, and geometric algorithms. This integration facilitates the creation of a visual representation of all the data points within large datasets.

By utilizing the capabilities of AWS, Anantyx Lab, EurekaAI was able to scale efficiently to process and analyze the vast amount of data provided for the 376,000 contracts awarded by GSA, DOJ, HHS, and DOD over the four-year period. As a result of this analysis, the GSA successfully identified gaps and issues related to Small Business utilization, enabling them to provide valuable recommendations to the relevant agencies. This actionable insight serves as a foundation for implementing measures to improve Small Business engagement and collaboration within the procurement process.