

Using AI to Write Contract Requirements

Highlights from a Government Roundtable, hosted by ATARC

The Advanced Technology Academic Research Center (ATARC) recently hosted the "Using AI to Write Contract Requirements" roundtable. A discussion on the use of Artificial Intelligence (AI) to improve the federal acquisition process.

Federal leaders and industry experts agree there is great potential for AI to enhance and accelerate all aspects of the federal acquisition processes, especially contract writing. Contract writing is a necessary but tedious task requiring certain skills to efficiently procure government services and products.

As commercial AI tools, such as ChatGPT, become more common, it's important for government agencies to understand how AI can be applied to routine technical work such as contract writing.

At this roundtable, industry experts came together with federal procurement leaders to discuss the many potential benefits of using AI in federal procurement, as well as the foreseeable challenges agencies may experience with privacy, security, and the rapid acceleration of technology.

Potential Benefits of AI Technology on Federal Procurement

**“Let's not forget.
AI is a tool.
It should not be the
decision maker.”**

Roundtable experts explored the potential uses of AI in federal acquisition and procurement processes. They noted that AI, when provided with sufficient information, could significantly aid in crafting acquisition strategies for many portfolios, such as IT, facilities, and professional services.

Additionally, AI could speed up processes by providing effective evaluation factors for solicitations, identifying appropriate terms, conditions, and clauses, and offering small business market assessments as recommendations.

The conversation also highlighted potential use cases of AI within government departments, such as assisting with the submission of procurement packages among program offices. AI could help program offices, which may not have a deep understanding of procurement or only handle procurement requirements once every five years, by analyzing requirements and suggesting relevant Product Service codes and NAICS codes.

Participants emphasized the importance of standardizing processes to collect and review information more efficiently, leading to stronger and better-informed requirements. However, they also cautioned that AI should be viewed as a tool, not a decision-maker, especially for administrative tasks. For example, AI could be used to automate market research and compile information in a usable format for human review and decision-making.

“It's important to bring in the end user when you are writing a requirement. So many times it's like a game of telephone and things get lost in translation. With this technology, we're bringing in that end user to make sure that that problem is being correlated.”

This led participants to discuss how AI could be used to improve knowledge management throughout the organization. Although not currently implemented, it's possible for AI to enhance knowledge management by providing easy access to an individual's career information and other valuable skills, such as language proficiency. Having the ability to immediately identify this information can be particularly beneficial for understaffed or small agencies or overseas embassies. The integration of AI in knowledge management can potentially lead to increased efficiency and better utilization of existing resources.

Potential Drawbacks of AI Integration in Federal Procurement

Roundtable participants shared what they view as potential drawbacks and barriers of implementing AI in the government sector and in federal acquisition, including privacy concerns, supply chain disruptions, and an increase in proposals.

Currently, many privacy offices are refraining from incorporating AI into policies or privacy impact statements, largely due to a lack of clarity on the use of personally identifiable information (PII) in AI learning models and data collection. In the near future, it's likely that privacy offices will need to update their privacy impact assessments to accommodate AI technologies, ensuring that personally identifiable information (PII) is protected.

Compute efficiency is another challenge, as there may not be enough GPUs to accommodate the growing AI demand in both the commercial sectors and government agencies, leading to potential scarcity and the need for vast architectural changes.

Considered by many as a benefit, AI is lowering the barrier to entry for small businesses in the federal acquisition space. AI technology is allowing smaller businesses with fewer resources to compete for big contracts, however, this is also resulting in more proposals for government agencies to review. This could lead to an inundation of proposals, some of which may not be worth the time and resources of the agency. AI-aided education can help address this issue by creating intuitive workflows and providing cognitive enhancements, enabling acquisition professionals to adapt to new methods and rapidly learn new skills.

Successful Use Case with AI Acquisition Software

One agency piloted and successfully implemented an AI application, AcqBot, to help agencies streamline contract writing and the acquisition process. Acqbot's success can be attributed to the entire team's commitment, including the right contracting office, program managers, and acquisition team, as well as strong leadership support. The adoption of rapid, agile development and using appropriate authorities for deployment played a crucial role in its implementation.

Challenges of Implementing AI in Government

During the roundtable discussion, participants addressed the challenge of implementing AI in government networks, emphasizing the need for an approved generative AI to connect to secure cloud services. They highlighted the importance of data privacy, ensuring that the AI does not ingest or log sensitive information.

The participants also discussed building a new knowledge management platform that can handle various file types, languages, and even handwriting recognition. They acknowledged the concerns about AI replacing human thought, but argued that AI could encourage more thoughtful problem-solving by eliminating the need for manual, repetitive tasks.

Challenges can also arise when dealing with federal agency executives who may fear change, lack technological expertise, and are hesitant to rely on data. To gain executive buy-in, it's essential to build confidence in agency executives and ensure that their trusted advisors reinforce the ideas being proposed.

API Integration and Privacy

One audience member asked about potential security and technical challenges with API connections and generative AI technology in the federal government. A vendor of AI acquisition technology explained that they prefer to keep the model and data in the same place to avoid potential issues with data separation. They aim for a consistent platform on different classification levels and opt for containerized platforms in specified environments. This approach allows for easier integration with existing acquisition platforms and data sources. The vendor emphasized the preference for a secure, integrated system, rather than segregating data across various classification levels, which comes with added complexities.

Another vendor represented at the roundtable has been able to successfully connect with APIs through a strategic partnership with Microsoft in order to provide a compliant solution. They noted that they also use other models other than OpenAI, which enables their solution to be instantiated on-premise or within enclaves. The platform offers plugins for ingesting PDFs and connecting to data APIs, and enables users to train data into different datasets and labels to ensure data separation. The vendor explained that real-time memory taps into real-time APIs and databases for their AI solution to produce up-to-date information.

Another vendor participating in the roundtable emphasized the importance of agencies taking control of the entire AI stack, from the server level upwards, in order to gain more flexibility, security, scale, and accuracy. By building their own engines, models, and applications, and without relying on APIs from big tech companies, agencies and their technology partners can create more custom-fit solutions tailored to specific scenarios.

The vendor explained that this approach not only enhances security and accuracy, but also allows for better scalability in the future. They noted that big tech companies often acquire smaller companies, which highlights the significance of agencies maintaining control over the entire environment in order to experience a more effective AI solution.





Implementation and Maintenance of AI Systems

Contracting officers often face challenges with increased workloads as a result of policy changes. Roundtable participants highlight how AI tools can help to alleviate the workload burden, while ensuring critical thinking and attention to detail are maintained, but questioned who will be responsible for feeding the AI model policy updates.

Industry leaders discussed how their respective technologies stay up-to-date with the latest executive orders and policy changes. For AcqBot, the AI model is seen as an engine that produces output, while the key lies in providing it with the right context and prompts to use the correct data. To handle policy changes and other modifications, these are codified into acquisition workflows, rather than altering the AI model itself.

Final Thoughts

Roundtable participants ended the discussion by exploring the concept of self-policing models, which involves separate models monitoring other models to ensure output accuracy. There should also be protections in place to prohibit AI from hallucinating answers.

Ultimately, the purpose of AI in government is to improve processes and create efficiencies. In contrast to the commercial use of AI, the ultimate goal for vendors working with the government is to reduce the amount of time agencies spend in AI applications.

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