



# Ethical AI *Custom AI for Real Mission Value.*

We collaborate with federal clients to define and execute tailored AI strategies, develop and deploy specialized applications, and seamlessly integrate AI capabilities into enterprise operations.

## OUR SERVICES

### AI STRATEGY & GOVERNANCE

Assess the risks and limitations of AI, AI readiness, and how the technology can be implemented in alignment with your agency's mission and culture. Develop the rules and policies that will ensure safe, unbiased, and ethical deployment.

### RESPONSIBLE AI INTEGRATION

Implement AI technologies to meet specific functions, from data processing and analysis to decision support and automated response systems. Enact deliberate measures to integrate responsible AI throughout your organization, fostering value creation and trust-building.

### AI USE CASE DESIGN AND DEVELOPMENT

We help agencies assess how and where Multi-Agent, AI architectures can and should be used to accelerate business processes and mission delivery.

## OUR APPROACH

We meet our clients at their current stage of AI adoption, enhancing their productivity and expanding their competence throughout their AI journeys. Our approach includes an AI readiness assessment and targeted consulting to address specific needs. For major federal AI initiatives and other large-scale programs, we provide extensive support encompassing:

### MULTI-AGENT AI ARCHITECTURE

Develop custom LLM Multi-Agent workflows to directly integrate with and speed up agency mission-critical workflows.

**DATA ANALYSIS** Apply Machine Learning (ML) and statistical approaches to quickly analyze and report data to inform decision-making.

### AI ETHICS POLICY AND EXPERIENCE

TCG is a proud member of the Department of Commerce's National Institute of Standards and Technology AI Safety Consortium. The Consortium is dedicated to supporting the development and deployment of trustworthy and safe AI.

## CORE AI FUNCTIONS



### AI SUMMARIZATION

Search and summarize a library of existing text for understanding or trend analysis.



### AI CATEGORIZATION

Group new data according to provided reference data.



### AI CODE GENERATION

Translate written problem statements into code using text-to-code technology.



**NIST**  
AI Safety Consortium

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## EXAMPLE USE CASES

- Data Visualization
- Dynamic Workflow Automation
- Public Comment Sentiment Analysis and Categorization
- Jailbreak-proof chat sessions (filtering out both inappropriate and sensitive input and output) through the use of ethics/quality agents
- Help desk support
- Automated SQL generation & reporting from databases
- Improve the quality (review) and test automated SQL generation & reporting (using of multiple-agents)
- Use LLMs to assist in ETL or data merging
- Drafting of key project artifacts from templates, project descriptions, and notes (RAG and multi-agents)

## EXAMPLES AND PROTOTYPES

### GSA SRT

Identifying 508 standards in solicitations

### OMB FPI

Classifying assistance programs for budget analysis

### TCG'S ABBIE

Sandbox for document lookup, text generation, summarization, and text-to-code figure development  
Sentiment analysis and draft responses to public comments

## What is Multi-Agent Architecture?

A multi-agent architecture consists of cooperative LLM sessions in which each LLM session (called an "agent") is customized to take on different roles. Working together, multiple agents can overcome inherent limitations of LLMs such as the inability to do multi-step tasks, limited memory, fabrication, and the tendency to lose details in large text.

### Multi-agent set-ups:

- Enable complex LLM workflows;
- Coordinate LLM, human inputs, and tools;
- Enhance efficiency: agents are capable, reusable, customizable;
- Break down complex problems into smaller, solvable steps;
- Allow fully automated LLM activities with error correction; *and*
- Provide collaborative/adversarial agent interactions.

## TOOLS

### LARGE LANGUAGE MODELS

OpenAI ChatGPT  
Anthropic Claude  
Meta Llama  
*(local models via Ollama)*

### VECTOR DATABASES

Pinecone Database  
Weaviate

### MULTIPLE AGENT FRAMEWORKS

AutoGen  
CrewAI  
SQL Generation  
Vanna

### MACHINE LEARNING FRAMEWORKS

Ludwig  
Pytorch  
Scikit Learn

### RPA

Blue Prism  
UIPath

### "GOVERNMENT SAFE" RETRIEVAL AUGMENTED GENERATION

AskSage

### CODE GENERATION

Copilot

