Creating an Artificial Intelligence and Machine Learning Guidebook for Government Agencies

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The Advanced Technology Academic Research Center (ATARC), a leading Government Private / Public Partnership, has a goal to accelerate the adoption of AI and data analytics best practices across government and industry that increase efficiency and reduce cost. To aid the ATARC with this goal, Analytica helped create a Guidebook to identify key components, frameworks, and detailed research analysis on best practices for demonstrating successful implementation.

The Challenge

The Advanced Technology Academic Research Center (ATARC), is a collaborative forum for the Federal government, academia, and industry. Its Artificial Intelligence and Data Analytics (AIDA) Working Group identified a need for a reference guide and playbook that federal agencies can use to establish artificial intelligence and machine learning initiatives. The guidebook addresses best practices, approaches for implementation, potential challenges, and mitigation strategies. Analytica, who serves on the AIDA, represented DHA to perform the work on their behalf. Our team was asked to lead contributions in the field of federal health based on our experience applying AI/ML at CMS and DHA.

Our Approach

Through alignment with government entities and initiatives, such as the Digital Government Strategy, the AIDA Working Group provided strategic recommendations to identify and provide solutions to government challenges in implementing AI and shared analytics.

The Guidebook was created out of the need to identify key components, framework, and detailed research analysis on best practices for demonstrating successful implementation. Following the completion of the final draft, the Guidebook was sent out for public comment. Feedback was adjudicated by the Working Group, and the Guidebook was officially submitted to ATARC for distribution.

The Solution

The Guidebook expands upon ten critical tenets imperative to the implementation of AI and data analytics, ranging from the fundamentals to data management strategy and governance policy. The ten critical tenets are:

- Fundamentals
- Machine Learning Methodology
- Privacy and Security
- Societal Impact
- Data Management
- Measurement of Effectiveness
- Key Performance Indicators
- Human-Machine Interaction
- Organizational Change Management
- Governance

This guidance also provides key performance indicators to measure the impact of implementation at the Department, Agency, Division, and Bureau levels as well as at the project level. The effectiveness of the Guidebook overall is measured in the future through observation and analysis of the successes and shortcomings of analytics implementation in organizations as they leverage the product and analyze lessons learned from implementation.

The Guidebook addresses both federal and commercial organizations, specifically those who want to leverage innovations around AI and data analytics to better serve their community, stakeholders, and clients.

Best practices are outlined throughout the Guidebook for AI and data analytics to include repeatable and resilient models, core analytic terms of reference, and supporting definitions while promoting data standardization, optimization, and innovation. With this product, future analytics and artificial intelligence work will be streamlined and more effectively replicated across industries.

The Guidebook is published under Resources and the AIDA Policy Working Group Page on the ATARC website. To ensure proper distribution, the team sent it out in ATARC's weekly newsletter and shared it on all ATRAC social media platforms. The Guidebook is now available to the public on ATARC's website at the following link: https://atarc.org/teams/aidawg/aida-guidebook-project-team/.

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