



COE DATA INSIGHTS: MACHINE LEARNING/ARTIFICIAL INTELLIGENCE – WHAT IS MISSING?

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Tesfaye T. Betemariam



Center for
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Excellence

Machine Learning/Artificial Intelligence – What is Missing?

As Machine Learning (ML)/Artificial Intelligence (AI) matures, we need to be aware of the obstacles to its success.

Many organizations, both private and government sectors, are talking about, and some even start implementing ML/AI solutions to improve upon existing processes or try to solve problems that weren't easy or possible to solve using established methods before. However, there seem to be some hindrances to the widespread and speedy implementation of solutions based on ML/AI to reap its benefits in government and business organizations. To help remove these hindrances, the US Federal Government has established an AI Center of Excellence. This COE is expected to *“support the adoption of AI through direct partnerships, enterprise-level transformation, and discovery work¹.”* At the basic level, though, the communication gap among the different teams implementing ML/AI, the developed system end-users, and leadership need to be addressed.



In this article, I will try to scratch the surface by touching on the obstacles to ML/AI adoption.

Lack of Clear Horizontal & Vertical Communication

ML/AI is not something to be left to the IT department. Like the introduction of the personal computer in the workplace and home affected us in many ways, ML/AI can also be revolutionary. For the most part, ML/AI is not something that is going to replace humans completely in the workplace. It is just a new powerful tool that will cause newer opportunities to sprout and existing ones transformed. According to the world economic forum in an article titled “Don't fear AI., It will lead to long-term job growth.” there will be some 97 million new jobs created related to AI by 2025, while some 85 million jobs will be displaced during the same period. However, this new toolset may appear and sound intimidating until it is widely used and become ubiquitous.

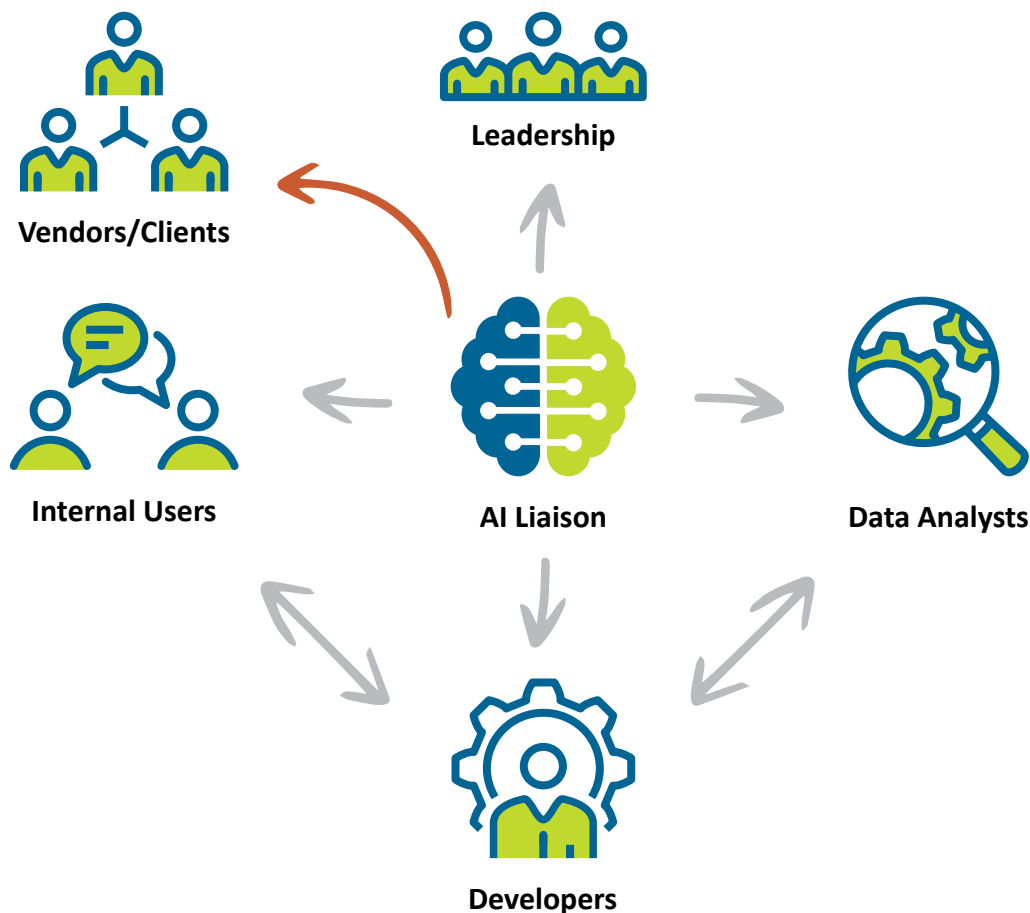
One of the main issues observed today appears to be a lack of a clear understanding of what ML/AI is, what it is not, what it can solve in the context of the organization's mission. Moreover, another obstacle could be the communication gap among the different stakeholders in developing ML/AI solutions.

¹ [How the Federal Government's AI Center of Excellence Is Impacting Government-Wide Adoption of AI](#)

There are some studies done regarding this. For example, David Piorkowski of IBM research and his team, in their January 2021 research paper, studied the challenges of the communication gap multidisciplinary ML/AI development teams face and how they can overcome it².

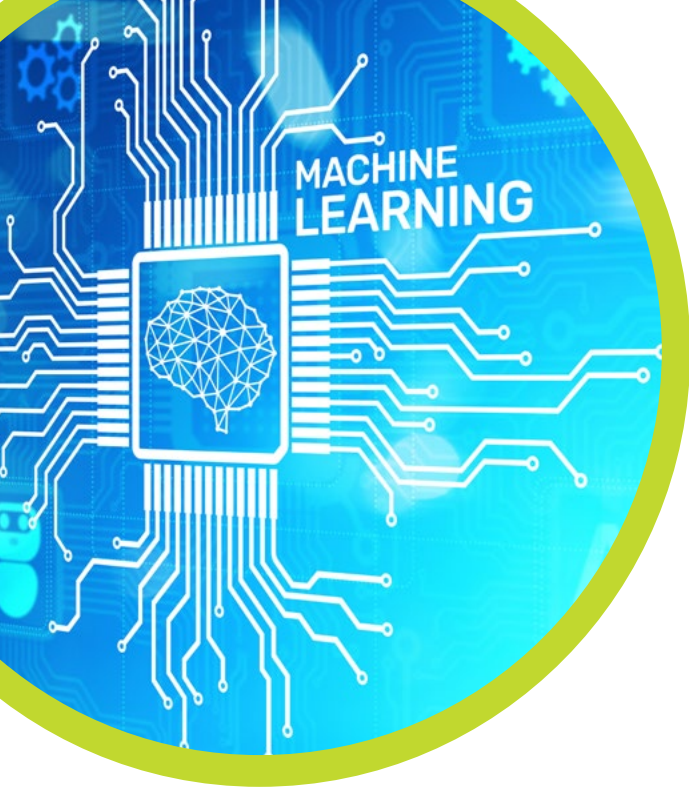
To help with both the horizontal communication challenges among development teams or to facilitate vertical communication with leadership and achieve the success of ML/AI in an organization, finding a common language that is not riddled with technical jargon, presenting simplified and concise problem statements, formulating clear solution statements, and preparing proof of concept applications can go a long way.

But how do we coordinate this communication strategy? There may be more than one way of addressing this problem of lack of clear communication among the different stakeholders. One of them could be for organizations to establish a new position called “AI Liaison” or “AI Facilitator,” as shown in the illustration below. Where in the organizational chart the “AI Liaison” should be located may depend on the size and structure of the organization. However, the goal remains the same, and it is to coordinate ML/AI implementation efforts by closing the communication gap. This is a different position than the Chief AI Officer (CAIO) position some organizations such as the Department of Veterans Affairs and the Department of Health and Human Services are already creating, as pointed out in this article³. The “AI Liaison” operates at a lower level connecting AI implementors and users to higher leadership, including the CAIO.



² [How AI Developers Overcome Communication Challenges in a Multidisciplinary Team: A Case Study](#)

³ [Feds Growing Many AI Gardens, Reaping Uneven Yields](#)



The “*AI Liaison*” is an individual or a small team of talented advanced technology, communications, and business-savvy people. This person or group interact with the following stakeholders:

1. Internal users or employees of the organization whose day-to-day activities could be affected by the introduction of ML/AI applications.
2. Data analysts and anyone involved in data acquisition, processing, and archival of the organization.
3. ML/AI applications developers in the organization.
4. External clients and vendors of ML/AI products and services.

This position can be the missing glue that can be used to bring the ML/AI community within an organization together and act like the spark needed to fire up the process. It is customary that Internal IT services users interact with the OCIO to produce requirements documents and get an application developed or enhancements for them. Since regular IT services are mature and process to implement solutions are in place, it may not badly require a special go-between team. However, because it is new and there is a paradigm shift when it comes to ML/AI, the “*AI Liaison*” is invaluable in making sure the internal users, data analysts, and ML/AI developers communicate clearly.

ML/AI solutions start by first formulating the problem through a series of questions asked about data we already have, or can acquire in the future. While the core problems an organization tries to solve may be obvious and ready for implementation, most problems the organization can solve may need a number of working sessions and multiple inputs among stakeholders. These exploratory sessions to formulate problems can be made productive by a talented “*AI Liaison*” facilitating communication & concept translation among users, developers, and data analysts.

Even as important as the above, an organization’s ML/AI program goes nowhere or faces a very slow adoption without **the blessings of its leadership**. Here is where the talents of the “*AI Liaison*” become crucial. This liaison should be able to speak the business language leadership mostly speaks and sell the promises of the ML/AI process being set up using the input he or she gets when working with the different teams involved.

Having this position should not be considered redundant or wasteful. In addition to facilitating the internal ML/AI development process, they can be used to interact properly with external product and service vendors as well as potential clients of the organization’s ML/AI products.



AUTHOR

Tesfaye T. Betemariam
Senior Software Engineer
tesfaye.betemariam@center4oe.com
571.488.4631

CONTACT

Center4oe.com
15204 Omega Drive, Suite 300
Rockville, Maryland 20850
301.948.1922