Building public trust in responsible AI

Ensuring the ethical, responsible use of AI is crucial to ensuring a bright future for society

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AS THE USE of artificial intelligence grows, we need to maintain vigilance so the technology properly integrates safety principles to help us manage and secure our data and models — and ensure the public's trust in applications of AI.

It starts with secure, unbiased datasets. Algorithms and other foundational datasets must get monitored during training and inference to counter attack vectors such as corruption and data.

Taking such steps also strengthens compliance with legal requirements such as Europe's General Data Protection Regulation, which imposes various limitations on data usage. The California Consumer Privacy Act is an example of emerging U.S. law regarding personal data.

In the United States, the Defense Department is working with the Defense Innovation Board, the Joint AI Center and the Defense Advanced Research Projects Agency (DARPA) on ethical AI principles, and the National Security Commission on AI is expected to issue recommendations early next year.

At Lockheed Martin, we understand that AI can be a powerful positive enabler for the benefit of society, and we educate our employees and work closely with our customers in the U.S. government and our allies around the world to ensure that data, systems and AI business models are transparent and their decisions can be understood in a manner consistent with mission context.

Focus on human-machine teaming

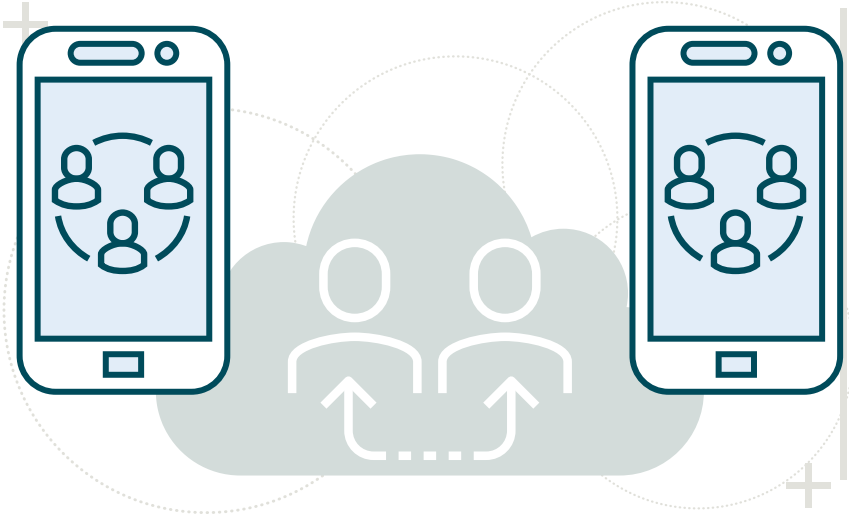
AI is a game-changer when it comes to training and enabling people to achieve success in complex missions.

In his book "Deep Thinking," chess grandmaster Garry Kasparov pointed out that average chess players fare better when partnered with a machine than expert players do. That's because experts question the machine's recommendations based on instincts developed through the years.

We train Air Force pilots over many years to become experts at flying into battle. With AI in the cockpit, highly trained pilots will sometimes question the recommended directives produced by a model's inferences, especially when those directives are counterintuitive. Therefore, to build trust between the pilot and an AI-enabled system, the human-machine interface should start early in the training process. Humans need to learn how to partner with a machine to supplement their ability with the machine's capabilities.

Apply AI wisely

Some mission profiles may not be appropriate for reliance on deep neural networks whose complex inner relationships cannot be precisely explained. If we apply AI to use cases like predictive maintenance, the risk of an inaccurate prediction is somewhat minimized. We still have a lot of



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work to do to develop robust AI solutions that meet or exceed the high standards of our legal, regulatory and ethical frameworks — so other use cases on the battlespace will require that humans continue to be a critical part of the decision cycle.

DOD's Joint AI Center is identifying where to apply AI today and where to pause and do some fundamental research through partners like DARPA to prepare us for the next wave of AI.

As in all other aspects of our business, we will continue to apply our ethical principles when we adapt technologies such as AI to advance innovation. That includes understanding any inadvertent harm to persons, which can often attract disproportionate attention. However, we believe the human-machine symbiosis, when overseen properly, will continue to evolve and yield breakthroughs in the nature of work and positive societal impacts.

Our customers are counting on us to collaborate and strengthen public trust, and we're fully invested in that partnership. ■

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