

## AI RFI Responses, October 26, 2018

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### Update to the 2016 National Artificial Intelligence Research and Development Strategic Plan RFI Responses

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**Hewlett Packard Enterprise Comments on the Request for Information (RFI) to the National Artificial Intelligence Research and Development (R&D) Strategic Plan**

October 26, 2018

Mr. Faisal D'Souza  
National Coordination Office  
National Science Foundation  
2415 Eisenhower Avenue  
Alexandria, Virginia 22314

**Bill Mannel**  
VP & GM, HPC & AI  
Solution Segment

bill.mannel@hpe.com

Dear Mr. Faisal D'Souza,

Hewlett Packard Enterprise (HPE) appreciates the opportunity to submit comments in response to the Federal Register Notice on the National Artificial Intelligence Research and Development (R&D) Strategic Plan for the National Science Foundation published on September 26, 2018. We applaud your recognition of the importance of nurturing a supportive policy environment and identifying appropriate government roles in order for Artificial Intelligence (AI) to flourish.

AI enables a range of opportunities and benefits for new economic growth and efficiency in multiple areas of society, including healthcare, transportation, financial markets, criminal justice, customer service, energy generation, and manufacturing. It is also vital to our country's national security capabilities.

HPE has a comprehensive portfolio of AI, IoT platform, compute, data analytics, security, and connectivity solutions and services, as well as a robust ecosystem of top-tier partners. From this perspective, we are pleased to offer our expertise to the U.S. government (USG) on policies related to AI.

**Government involvement and a strong government-led framework is needed.** USG intervention and funding is needed to push through the private/public national AI agenda. HPE believes a robust national framework will be required to integrate vast resources and set priorities for our country to

maintain its leadership position and for AI to develop and thrive. Furthermore, R&D efforts for AI will require government funding and scientific collaboration with private industry and academia. The government can proactively engage to provide the necessary leadership and guidance to ensure AI is advanced in a manner that is beneficial to the all Americans.

**USG should lead moonshot projects (both domestic and global).** Establish opportunities for U.S. private/public partnerships to engage on a couple of moonshot ideas. Private industry is unlikely to independently take on these enormous societal challenges without a public partner. At the global level, USG should facilitate partnerships with countries to address global interests, such as health care and the eradication of disease. The creation of a global AI consortium would be helpful to the U.S. retaining its leadership position and addressing global challenges of mutual interest.

**AI program at the Federal level should transcend a change of administration.** The true value from AI will take years to realize. Policymakers need to ensure that the USG does not implement programs that can be eliminated or are subjected to funding decreases with a change in government/political parties.

**Fund basic research at universities to remain competitive.** Core AI breakthroughs have their origins in academia. The basic research being conducted at university labs is critical to future advancements in this area. AI innovation is constantly developing and improving, and the academic/scientific community is a key stakeholder in its success. As Oren Etzioni, CEO of the Allen Institute for Artificial Intelligence, a nonprofit based in Seattle, has stated, “If you don’t fund the universities, you run the risk of starving the goose that lays the golden egg.”

**Access to data.** The lack of a uniform standard on data access and sharing in the U.S. is a significant challenge and barrier. And, the current lack of access to high quality data remains a key variable to AI’s future success. We encourage the USG to lead a process where meaningful stakeholders can come together to set ground rules and standards to facilitate data

sharing to make datasets accessible to the broader AI research community.

**Utilize tax incentives as an effective multiplier effect of R&D investment.** Currently, resources and man power are materially less costly in China, Russia, and other developing countries. The same absolute investment goes a lot further in these regions. However, the financial footprint of the private sector in the U.S. is much larger. Part of the direct R&D investment in the U.S. could be set aside to be used as tax incentives for matching investments in the private sector based on commercial success. This would leverage the size of our markets to amplify the total effect of R&D investment. To gain insight into returns of investment, there are several models that could be used. This could be a competitive advantage for the U.S. as our competitors do not have a similar economy to derive these types of benefits.

**Areas needing focus of USG AI R&D investments.** The AI related to social media and other consumer facing businesses are currently better funded for the immediate ROI by the American private sector. The focus should be more on applied and fundamental areas related to security, defense, strategic industrial differentiation (such as aviation), societal benefits, and areas related to our national interest. However, part of the R&D funds still need to be invested on pure fundamental research with a potential to help areas of national interest and competitiveness.

**Incentivize the usage of AI products from American enterprises triggering additional organic investments.** When Lenovo came up with AI-based medical image diagnosis, there was apparent help from the Chinese government to run pilot projects in many hospitals across China. USG needs to address the red tape and regulations to figure out a way not only to make it easy to deploy AI, but also to spend some of the funds allocated to R&D to incentivize its deployment of pilot projects – which will initially cost the service providers without immediate returns. This could be in the form of tax breaks and additional government funds for cases of business success. This will reduce barriers to entry for new strategic AI technology and contribute to AI R&D success for American enterprises.

This will give us a level playing field to compete and address the entire successful AI product development flow from R&D, to product, to successful deployment by mitigating financial risks. USG encouragement to accelerate adoption of AI will generate and perpetuate the cycle of more organic investment and funding for AI R&D by the private sector.

**Academic investment at inception at school levels.** We need to extend investment of USG funds beyond the higher education sectors and R&D with a longer term view. We need to encourage and mobilize the interest in AI in the middle and high schools, to have a higher and active participation of the brighter young minds and prepare them for a competitive AI curriculum for higher studies. The U.S. needs to be more creative and aggressive to foster the next generation of engineers and lay the groundwork for success in AI, with a curriculum at the school level. Also, we need to incentivize the schools and hold them accountable – schools should be assessed on their relative progress to continue getting the funds at different levels. In addition, funding for school level AI competition and its publicity at the local, state and national levels, will encourage interest and create a culture of AI innovation for future generations in the workforce.

Respectfully submitted,

/Bill Mannel/  
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