

Are you hyped about the Artificial Intelligence hype?

If you search the Web you will find tens of thousands of references for Artificial Intelligence promising many things, some quite outlandish. For 60 years AI and its near term prospects have been overstated and exaggerated. Rodney Brooks, former director of the Computer Science and Artificial Intelligence Laboratory at MIT comments — <https://is.gd/7nlagI>— that AI has been overestimated again and again, in the 1960's, in the 1980's and again now. Even today, there is little evidence that AI is producing increased productivity in the major sectors of medicine, manufacturing, and service industries.

Is there any basis for the current hype? Possibly, there is! New resources including more powerful computers, ingenious new algorithms, and huge quantities of accessible data that help the algorithms to “learn” are coming available. These resources have stimulated progress in pattern recognition, language translation, speech recognition, image recognition, and game playing.

The U.S. General Accountability Office — <https://www.gao.gov/products/GAO-18-142SP>—describes the evolution of AI as having three distinct waves of development.

Wave One. Programs are based on expert knowledge or criteria akin to the logic in computer programs since the 1950's.

Wave Two. Machine learning begins.

Wave Three. Builds on Waves One and Two while involving contextual awareness, adaptation, and explainable machine learning algorithms. In Wave Three some forecasters claim that AI will outperform humans, cause massive unemployment, and perhaps turn on humans in a war-like scenario.

For relatively routine AI challenges, (Wave One), we can see the future by looking at India. India has been the top destination for the outsourcing of tens of thousands of jobs outsourced by companies from the West and the USA in particular. India has been accustomed to hiring some 400,000 new employees each year until recently. In 2018, this fell 150,000 jobs annually and projections are that hiring will soon fall to zero. Vishal Sikka,—<https://is.gd/VIF7by>— recent CEO of Infosys, projects that over the next 10 years, AI will wipe out 60-70% of the work they do today.

The future is in machine learning—Wave Two. Although the US is the leader in AI technology, China is investing billions to grow all of their domestic industries and take the lead. Chinese leaders and company managers feel that AI will create new jobs and wealth, whereas in the USA the feeling is that AI will eliminate jobs and cause serious disruption to the economy and the labor force.

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Wave Three jobs are many years in the future. One company, Affectiva, is working on a Wave Three contextual awareness challenge to assess a person's emotions. They are developing AI algorithms attempting to measure whether a person is happy, sad, tired, bored, angry, confused, distracted, or more of the many human emotions. Contextual awareness is important because without it AI can make a perfect chess move while being unaware that its room is on fire.

The cancellation of the USA's Immigration and Customs Enforcement agency's (ICE) *Extreme Vetting Initiative*—<https://is.gd/A8WCCR>— demonstrates the difficulty of Wave Three technologies. The goal of EVI was to predict whether a visitor to the US might commit criminal or terrorist acts. Hailed by Donald Trump, the proposed system would have mined Facebook, Twitter, and the Internet seeking derogatory information including radical or extremist views.

ICE cancelled the *Extreme Vetting Initiative* concluding that the software is not yet available to predict human behavior based on Internet searches. Instead, ICE will hire 180 persons attempting to do the job.

Anticipating problems as well as opportunities, the US General Accountability Office (GAO), convened an AI focus group to examine the possibilities and the need for government regulations. The group focused on four areas: Cybersecurity, Automated vehicles, Criminal Justice, and Financial Services. Findings are available at *GAO Forum on Artificial Intelligence: GAO-18-142SP*.

Today, most government managers are at the entry door of AI wondering whether to knock and enter. There are three barriers.

Lack of talent,
Data isn't ready for AI, and
Managers are unclear about problems and opportunities

What actions should government managers do in a preliminary way to prepare for AI? Isaac Sacolick, author of "Driving Digital" has suggestions to ease into the sector.

Reach out to others in the AI field. Lacking AI staff, reach out to others to learn from their experience. Associating with organizations such as the World Bank, OECD, the International Council for Technology in Government Administration (ICA), and the Association for the Advancement of Artificial Intelligence (AAAI) will provide some basic learning and a sense of where the opportunities may be for one's organization.

Develop a data governance policy- Define who has access to data and the permissible uses of data. Data governance teams should also be developing data catalogs, dictionaries, and reviews of data quality that are all important for using data in AI experiments and machine learning.

Although bountiful publicity for AI accompanied by far out claims causes one to be cynical, in the history of technology we tend to overestimate the effects of the technology in the short run. At the same time, we tend to underestimate the effects of the technology in the longer term. Consider, Internet, and GPS as two examples that became major game changers well beyond what forecasters could image at the outset.

Perhaps AI, finally, is ready to deliver. Likely, we will not have to wait another 60 years.

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