

Applied Artificial Intelligence – Making AI Work for Consumers as a Core Business Component

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Abstract

Artificial Intelligence (AI) is now rapidly being applied in our society. While the breakthrough of AI in terms of its use and its applicability on a societal level has in fact been repeatedly announced since the mid 1950s, is now truer than ever. As recently acknowledged, AI has now, after three waves of developments, finally left the research labs and entered real-world contexts. Accordingly, and as AI is now increasingly and widely applied, we suggest that it is now time to address issues related to “Applied Artificial Intelligence” (AAI). In this paper we propose this term, and we define it as the study, design, development, implementation and use of Artificial Intelligence technologies to address real-world problems. In this article we present how AI has developed over the past few decades, and across three waves of developments, and we illustrated Applied Artificial Intelligence by presenting our e-Biz corp case where a global actor is now using AI as a core component of their online business. We conclude this article with a set of recommendations for moving forward with Applied Artificial

Intelligence, and we present the main contributions offered by our work to the growing body of research on how to make use of AI.

Keywords: AI, Artificial Intelligence, Applied Artificial Intelligence, Core business

The Breakthrough of Artificial Intelligence in Society

“Artificial Intelligence is no longer an academic term, but a reality”. This could have been said today, given the current and escalating hype surrounding AI. However, it was actually stated by Holloway and Hand (1988) in their Business horizon article published almost 30 years ago. Nevertheless, this statement concerning the large-scale and real-world breakthrough of AI could have also been made today, in the year 2020. In looking back from a historical viewpoint, the proof-of-concept in terms of the wide scale societal breakthrough of Artificial Intelligence (AI) has been a continuously repeated promise and message surrounding the development of this technology over the last few decades, from the mid 1950s until today (see e.g. Turing, 1950; Weizenbaum, 1966 and Makridakis, S. (2017)). As formulated by Xu (2019), we are now already in the 3rd wave of AI, and the promise of AI has been repeated for each of these three waves of developments of AI technologies.

Still, this statement about the breakthrough of AI as formulated by Holloway and Hand (1988) might now be truer than ever. As pinpointed by Xu (2019) this 3rd wave of AI is now characterized by technological enhancements and the deployment and use of AI solutions in society, whereas

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Finally, and in adding to Xu's (2019) definition of useful AI as "*an AI solution that can provide the functions required to satisfy target users' needs in the valid usage scenarios of their work and life*" we would like to expand on this notion of "Useful AI", and suggest that it needs to work, not only for users/consumers, but also for the businesses providing the service. In order to successfully apply AI to real-world problems it needs to work, for its users, and for those who provide digital services based on applied artificial intelligence.

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