



Enterprise Artificial Intelligence (AI) and the Future of Work



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Abstract

In the decade and a half since 2000 we have witnessed the emergence of the Intelligent Web wherein diverse threads of Artificial Intelligence (AI) research have come together in the continuing effort to better target advertisements at us as we use the Web. It was inevitable that these technologies, which to some extent enable machines to undertake tasks requiring purposeful intelligence, would become pervasive across industry and society. Today, every industry is both impacted by and also seeking to exploit AI, not only by adopting AI technologies in current operations, but by changing the way they do business: Banks are seeking to go beyond being mere accountants of money and facilitators of payments: by exploiting the data they are privy to, i.e., who pays whom for what, they hope to assist merchants in their advertising and pricing strategies. Insurance companies can move from provision to prevention, for example via mobile apps that track the driving behavior of customers and reward those that drive more safely, and similar tools to encourage fitter and healthier lifestyles. Likewise, car manufacturers are beginning to use data from the hundreds of sensors that populate each modern vehicle to better predict failures and prevent costly recalls. The list goes on, and similar trends are observed for telecom operators, utility companies, retail chains, hospitals, even governments. In this talk I will describe in detail a few cross-industry examples of AI technologies being applied in 'traditional' (i.e., non-web) enterprises: In particular applications of deep learning and deep reinforcement learning, with the latter's effective-

ness at 'playing games' coming in handy once we begin viewing much of routine operations as games themselves. While in many cases, operations traditionally involving humans expertise can be increasingly automated using AI technologies; we also see equally many scenarios where knowledge workers' effectiveness can, if properly done, be significantly amplified via appropriate contextually intelligent assistants. Last but not least I will also illustrate examples of the use of crowdsourcing to train machines, which together with active learning can keep machines and humans working together in a synergistic loop.

