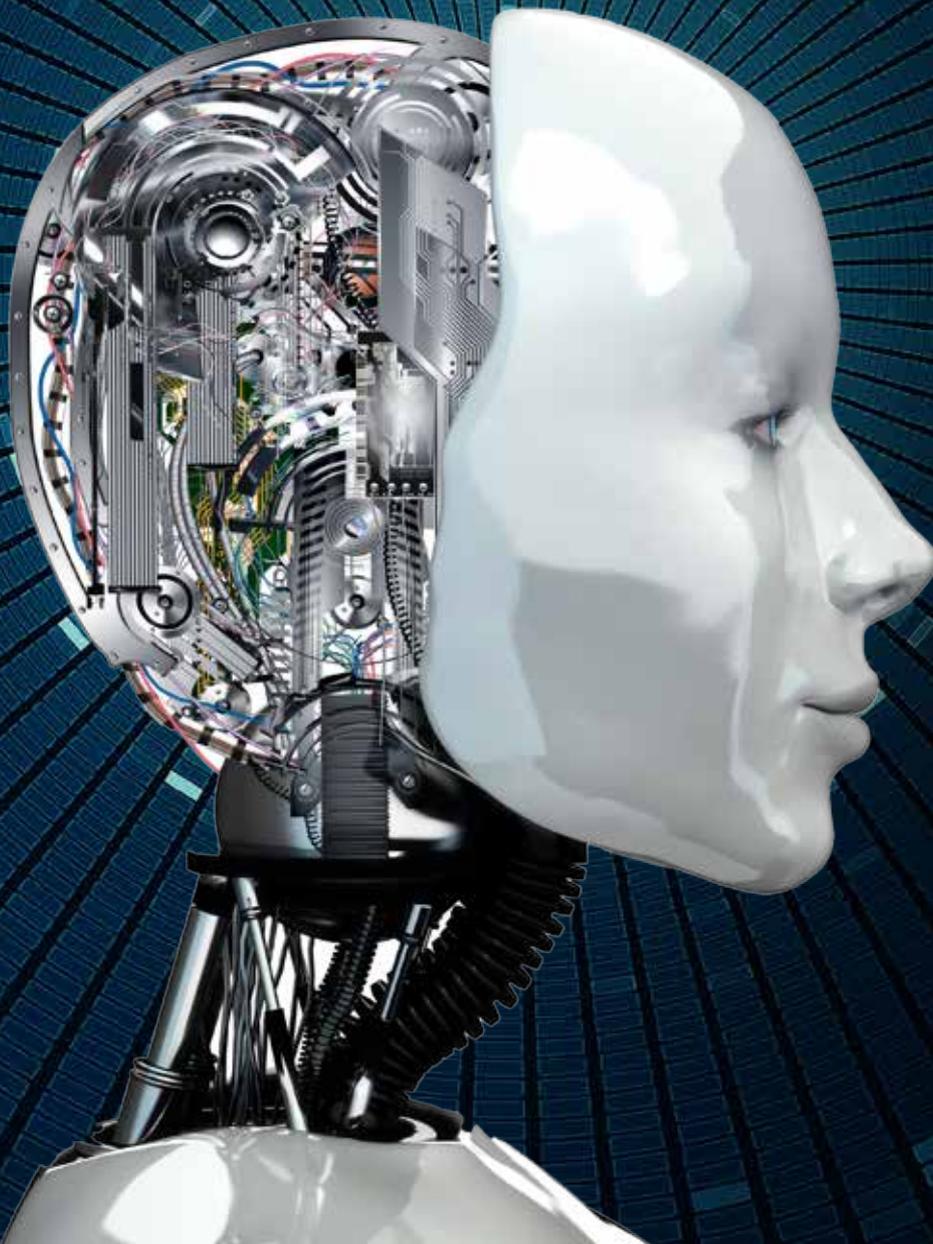


Synechron
Digital / Business Consulting / Technology

The Past, Present and Future of AI





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Artificial Intelligence (AI) has been around for decades but a convergence of big data, increased computing capabilities, and user demand has created a perfect storm where AI applications are evolving at a rapid pace. AI is being asked to solve business challenges across operations, risk and compliance, sales/marketing, finance, accounting, and other areas where processes are inefficient, time-consuming, costly, and data-driven decision-making could dramatically enhance business operations.

AI is a fast-paced field with a deep history that is continuing to change and become more complex every day. But what some don't realize is that the AI of today is no longer the AI of the past. AI now has the power to address challenges and predict outcomes like never before – but taking advantage of the opportunity requires understanding where we've been, where AI is going and how to keep pace with this fast-changing industry.

The Evolution of AI Technologies

While the concept of machines being taught to perform tasks that require human thinking and reasoning dates back to antiquity, the modern-day field of AI dates back to the 1940s with Alan Turing's theory of computation which worked off the premise that binary mathematics could be used to solve any conceivable problem. The concept of AI took seed and grew from there in the academic community in the 1950s and through government-sponsored defense projects in the 1960s until funding dried up in the 1970s.

Statistics Generation of the 80s and 90s

The next big breakthrough in AI took place in the 80s when AI techniques and statistical modeling was being looked at to move from academic and defense applications into the business world. The 80s showed that AI could be used to predict stock prices and that statistical modeling could be incredibly lucrative when applied to the right problem. These "expert systems" combined statistics and mathematics with data and domain knowledge allowing AI to solve more complex business problems.

In the 80s and 90s robotics entered factories demonstrating the revolutionary potential for machines to come in and completely change an industry, and the jobs of those in it, powering a fear and backlash against AI technologies, whose growth slowed once again.



The 2000s and AI today

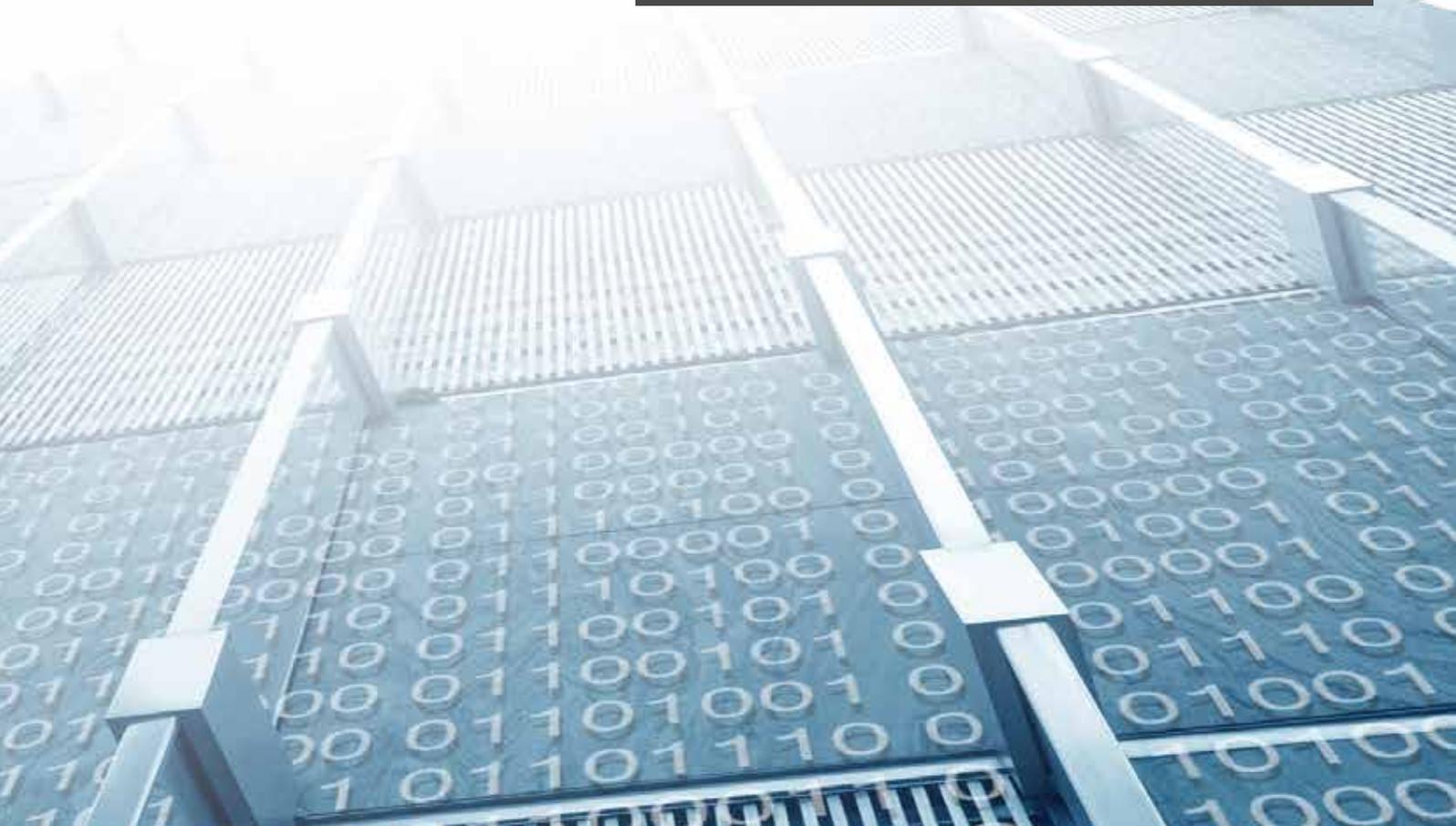
However, over the past 5-10 years, we've seen a significant resurgence in AI technologies with IBM's Watson winning Jeopardy against its top two reigning champions, Google becoming the GO champion, robotics being used for high-precision surgeries and a transition into the third generation of AI – The Era of Deep Learning.

This is where astounding innovation is happening at a rapid pace with leaders like Google using deep learning algorithms in neural networks to generate predictive models and algorithm marketplaces driving a new level of access to AI toolkits, algorithms and information like never before. With such a vast array of techniques available, however, businesses need to understand what algorithm to use in what situation when maybe a dozen would do and each is different. And while deep learning is the most advanced technique today, what's to say that statistics or expert systems couldn't solve a given problem better, or just as well, depending on what the problem is?

How can businesses prepare for the next wave of AI innovation?

Businesses in the financial services industry can benefit hugely by applying AI solutions to improve efficiency and reduce cost. However, it should be clear that developing capabilities in AI technologies requires significant investment and commitment. There is a significant "learning curve" to be able to master the various streams of AI such as Natural Language Processing/Generation, Machine Learning, Data Science, and others. Firms can decide to develop this capability in-house or partner with a firm (such as Synechron) to help them in the journey.

Firms should also understand that mastering the technologies is only one side of the coin – knowing where in the enterprise to apply them for maximum benefit is the other. Technologists need to be paired up with strong business teams across the front, middle and back office who can guide them through the areas that are bottlenecks. This is essential; otherwise, a "hot" technology such as AI runs the risk of being categorized as tech for techies instead of the future of business that it can be.



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