Artificial Intelligence (AI) has lived through alternate decades of AI summers and winters since 1956, but there is no doubt that AI is reshaping healthcare and life science every day.

The AI-driven applications are making what once impossible into a tangible reality. In 2018, FDA permitted marketing of the first AI-based medical devices with locked algorithms, one for detecting the diabetic retinopathy and the other for alerting providers of a potential stroke [1]. Now, FDA is speeding up in AI approvals or clearances.

AI and big data are like two sides of the same coin. As we know, healthcare and life science industries produce a great deal of complex, noisy and unstructured data. The winners to derive new and important insights from the massive distributed data with AI-based systems will take more market shares. For example, mining electronic medical records within minutes to facilitate medical diagnostics by using Google Deepmind Health or IBM WatsonPaths.

AI technology also help significantly reduce medication nonadherence. Roughly there are over $250 billion dollars of unnecessary costs in annual healthcare expenditures. Healthcare providers are starting to use robust AI-based approaches to reduce this systemic waste.

In addition, AI accelerates drug discovery safer and more effective. Presently, AI technology is shaking the $65 billion clinical market with around 20,000 clinical studies recruiting patients. More and more pharmaceutical companies are putting faith in AI for breakthroughs now.

However, AI technology is inherently intimidating. The potential risks of AI adoption in healthcare and life sciences industry are algorithmic bias, wrong decisions or recommendations, unethical outcomes, and data privacy. When considering these hurdles may slow the pace of AI innovation, FDA has made significant strides in developing policies for regulating rapidly evolving AI products used in medicine [2]. At the same time, healthcare and life science industries need their own strong actions to keep global leadership in this increasing competitive market.

Indeed, the healthcare and life science industries are now entering an AI golden age.

**References**

[1] <https://healthpolicy.duke.edu/sites/default/files/atoms/files/dukemargolisaienableddxss.pdf>

[2] FDA documents: https://www.regulations.gov/document?D=FDA-2019-N-1185-0001