

The Fourth Industrial Revolution and 100 Years of AI (1950-2050)

The book titled, The Fourth Industrial Revolution and 100 Years of AI (1950-2050), by Dr. Alok Aggarwal, CEO of Scry Analytics, will be available in Sept. 2023.

SAN JOSE, CALIFORNIA, USA, May 18, 2023 /EINPresswire.com/ -- Dr. [Alok Aggarwal](#), CEO and Founder of [Scry AI](#), has just finished writing the book titled, "[The Fourth Industrial Revolution and 100 Years of AI \(1950-2050\)](#)," which will be published in September 2023. It demystifies AI and discusses the ongoing fourth industrial revolution in detail.

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Arthur C. Clarke's law states that any sufficiently advanced technology is indistinguishable from magic. This is certainly true about Artificial Intelligence, which today confounds even researchers.”

Dr. Alok Aggarwal, CEO and Chief Data Scientist, Scry AI

Demystifying AI – Although the field of AI was created over seven decades ago, it remains fantastical to many. In recent years, scores of commentators have epitomized AI as a mystic supernatural force – whether it be a champion for achieving utopia (“AI might even save the world” – Oren Etzioni, ex-CEO of Allen Institute for AI) or dreading it as a harbinger of doom (“with artificial intelligence we’re

summoning the demon” – Elon Musk, CEO of Twitter and Tesla). No wonder, such hype has bolstered the view that the field of AI is more magic than science.

Hence the first benefit of this book is to explain the science and engineering behind AI, which involves addressing the following eight questions:

1. What is AI and what is its genesis? Chapters 2 and 3 discuss the evolution of AI.
2. What has AI achieved? Chapter 4 enumerates essential achievements of AI.
3. What are the shortcomings of AI? Chapter 11 discusses key limitations of AI systems.
4. What enables accurate AI systems? Throughout this book, the answer is data.
5. If data is the enabler, then what are its key characteristics for enabling AI systems? Chapter 12 discusses limitations of data and its multifaceted nature.
6. What are “good” AI systems? Chapter 13 describes such systems along with the progress and hurdles in building them.
7. How should we maintain AI systems? Chapter 14 explores the challenges in managing accurate AI systems.
8. How can we hope to improve AI systems in the coming decades? Chapter 15 discusses the limitations of classical computing and mitigating them by using other technologies.

The Fourth Industrial Revolution – Just like the previous three industrial revolutions, the fourth revolution, which started in 2011, is expanding at a ferocious pace. For the last decade, almost every year a prominent invention has made headlines that resulted in hype, which often went bust. For example, in 2011, IBM Watson beat humans in the game of Jeopardy! and went through a boom-bust cycle during the next nine years. Similarly, in 2015, Waymo demonstrated key inventions related to driverless cars. During 2015 and 2020, driverless cars were touted by pundits and investment bankers alike, which led to a partial bust in 2021-2022. And, during the last six months, one group of Deep Learning Networks in Artificial Intelligence called Generative Pretrained Transformers (GPTs) has captured human imagination worldwide and while they have been improving at an exponential rate, we still do not understand their capabilities or limitations.

Since the inventions of this revolution are being immensely improved by commingling them, they are capturing headlines in news and social media. This has resulted in a technological landscape that is mind boggling with unclear implications. Given this backdrop, the second benefit of this book is to discuss the vital characteristics of the fourth and current industrial revolution as well as its key inventions and their applications to society. Indeed, like the previous revolutions, this one will upend the status quo. For example, with gene editing and other healthcare inventions, the practice of medicine is likely to be transformed radically. Similarly, the inventions related to the newly created data infrastructure, AI, and climate change may end up destroying and creating several hundred million jobs (discussed in chapter 16).

In the first three industrial revolutions, steam engines, electric motors, and central processing units (CPUs) became diversified and ubiquitous. In fact, motors and CPUs are so widely used today (e.g., washing machines, fridges, microwave ovens, phones, televisions, and computers) that they have almost become “invisible.” In the current revolution, by 2050, AI systems are expected to diversify analogously with innumerable uses in daily life. Similarly, in the first three revolutions, new infrastructures related to water and steam, electricity, and electronic communication were created. Correspondingly, the current revolution will lead to the creation of a new infrastructure related to ingesting, cleansing, harmonizing, and utilizing disparate datasets.

In fact, these two iconic inventions (i.e., AI and novel infrastructure regarding data) will also improve the following other inventions of the current revolution:

1. Internet of Things (IoT), which is discussed in chapter 5.
2. Inventions related to predicting, mitigating, and adapting to rapid climate change, which are explored in chapter 6.
3. Blockchains, which are explained in chapter 7.
4. Metaverse and its potential applications, which are elaborated in chapter 8.
5. Robotics, driverless vehicles, and three-dimensional printing, which are described in chapter 9.
6. Inventions related to gene editing, protein folding, and healthcare, which are stated in chapter

Undoubtedly, each industrial revolution has had an enormous impact on society, whether it be affecting the workforce, the role of governments, or driving the trajectory of science; these are discussed in chapters 16 and 17. Furthermore, to bolster the arguments provided in chapter 17 (that AI systems will be used in numerous applications), Appendix A provides 100 use cases and applications and another 900 are listed on www.scryai.com.

Primary audience – Overall, this book aims to provide crucial information to the following:

- Students, especially graduate students, who during the next 10-20 years, will become entrepreneurs and decision makers, would be ideally suited to exploit these inventions, many of which would have started seeping into society.
- Product managers and program leaders who may not need to understand the minute details of AI systems but should have sufficient knowledge to discuss with clients and internal technology teams.
- Business leaders who wish to understand AI at a broad level and use it to improve their organization's processes.
- Consultants and investment managers who advise their clients and need a general understanding of AI and how it can improve their business processes or be used for starting or acquiring other businesses.

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