Metadata & Discovery Group

Book review: The AI and Data Revolution

Reviewed by: **Sergio Alonso Mislata**
The University of Manchester Library

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De Saulles, Martin (2025) *The AI and Data Revolution: Understanding the New Data Landscape*. London: Facet Publishing. ISBN 978-1-78330-708-1 (paperback)

CONTACT Sergio Alonso Mislata sergio.alonsomislata@manchester.ac.uk The University of Manchester Library

The declared aim of this book is to provide students of business and technology - and, more broadly, all Artificial Intelligence (AI) users and developers - with a clear sense of what AI and its intensive use of data represent for both the public and private sectors.

At the forefront of the current "AI and data revolution" is the rise of generative AI (GenAI). It is perhaps because of this central role that no analysis of other AI disciplines is provided: even if they are currently significant, they are not necessarily "revolutionary" in the way they process data to produce information.

According to the author, GenAI is a subset of Machine Learning/Deep Learning that, like other techniques, can make sense of massive datasets, but can also generate new content based on these. Within GenAI, Large Language Models (LLMs) occupy a central place. LLM-based models are trained mostly on vast and diverse collections of unstructured language-based data. Informed by an analysis of the patterns observed in the data they are trained on, they offer, when prompted, information (text, images, and even video) that seems to be accurate and relevant. It was as recently as 2022, with the launch of ChatGPT (a chatbot built on top of OpenAI's LLM), that GenAI suddenly looked like a mature discipline and its possibilities became immediately evident.

For the last 20 years, data has become a determining factor that shapes the way industries organise themselves and how their services and products are created. Companies such as Alphabet, Meta, Amazon, Uber, Spotify, Apple, and many other companies across every major industry have, to a great extent, attained a leading position thanks to their ability to gather, process, and exploit data efficiently. The current context dictates that the next step to secure their competitive advantage would be a more integral implementation of GenAI technologies into their business models, an implementation that would only become significantly impactful with the

development of domain-specific applications built on top of (generically developed) LLMs.

De Saulles stresses at various points the fact that the costs involved in training and continuously updating LLMs are enormous. On the one hand, for example, the global shortage of AI specialists drives salaries up. On the other hand, the creation and maintenance of large-scale data centres require vast quantities of energy to run and water for their servers to cool down. The onerous nature of the business places larger, well-established AI-intensive companies in a much better position to survive and thrive within an increasingly competitive environment.

But what may feel more relevant is not the examination of the costs these companies might need to assume to succeed, but the price we as a society might already be paying for this success. De Saulles offers a very interesting analysis of current and expected economic, environmental, and social issues caused by the widespread adoption of GenAI. Among them are job losses; rising household costs and a natural environment under threat as AI-intensive companies are expected to compete for priority access to energy and water in order to ensure the proper functioning of their gigantic, power-hungry data centres; and the societal risks of misinformation and manipulation that highlight the urgent need for strong data education to safeguard democratic life.

De Saulles also provides a useful overview of the different national policy responses to the rise of GenAI and the ways companies use personal and protected data. The United States and the European Union are presented as two distinct, if not entirely opposing, models, with the UK somewhere in between. While both sides oppose monopolistic abuses, the US tends to prioritise the commercial interests of GenAI companies (which are mainly American), whereas the EU (more a consumer than a producer) seeks to establish regulations that place the rights of individuals and communities above the interests of foreign technological behemoths.

Everything considered, it is fair to say that this book offers a solid overview of the principles shaping GenAI's development and its growing presence in society, while inviting readers to consider GenAI as a force that will profoundly influence the natural environment, human interaction, and governance in the near future.