The Data Revolution: A Comprehensive Survey on Datafication

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Abstract: *Datafication has emerged as a key driver of the digital economy, enabling businesses, governments, and individuals to extract value from the growing flood of data. In this comprehensive survey, we explore the various dimensions of datafication, including the technologies, practices, and challenges involved in turning information into structured data for analysis and decision-making. We begin by providing an overview of the historical context and the rise of big data, and then delve into the latest developments in artificial intelligence and machine learning. We examine the key drivers of datafication across industries and sectors, and explore the ethical, legal, and social implications of the data revolution. Finally, we consider the challenges and opportunities presented by datafication, including issues of data privacy and security, the need for new skills and competencies, and the potential for data to drive innovation and social change. Overall, this survey provides a comprehensive and up-to-date overview of the datafication landscape, helping readers to better understand and navigate the rapidly-evolving world of data.*

Keywords: Datafication, Big Data, Artificial Intelligence (AI), Machine Learning (ML)

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