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| Sommario/riassunto | Advanced Filter Structure Handbook: From Design to Optimization is an essential resource for anyone involved in managing and processing large datasets. As data grows exponentially, efficient filtering techniques become increasingly critical to performance and resource management. This book provides a comprehensive guide to understanding and implementing advanced data filters, from traditional Bloom filters to cutting-edge innovations like Ribbon Filter, Bamboo Filter, and SNARF. Unlike other texts that offer only a superficial overview, Advanced Data Filter Architectures delves deep into the structures, operations, and performance of both well-established and novel filters. Divided into four categories—read-only filters, space-elastic filters, streaming filters, and range filters—this book systematically explores the challenges and solutions associated with dynamic space partitioning, streaming data, and range queries. It offers |

detailed insights into the design principles and implementation methods necessary to develop high-performance filters tailored to specific applications. Ideal for researchers, practitioners, and students in computer science, database management, and big data, this book is more than just a reference—it is a comprehensive toolkit for mastering advanced filtering technologies. By introducing innovative designs that push the boundaries of filter performance, this book not only equips readers with the knowledge to tackle current challenges but also inspires new avenues of research and development. Advanced Data Filter Architectures is a must-have for those looking to stay at the forefront of data filtering technology.