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Soggetti	Optics Artificial intelligence Photonics Optical engineering Imaging systems in biology Image processing - Digital techniques Computer vision Optical spectroscopy Optics and Photonics Artificial Intelligence Photonics and Optical Engineering Biological Imaging Computer Imaging, Vision, Pattern Recognition and Graphics Optical Spectroscopy
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Nota di contenuto	1. Understanding the Fundamentals of Photonic Sensors: Principles, Mechanisms and Applications -- 2. Fundamentals of Generative AI -- 3. Fiber Optic Sensors (FOSSs) and Artificial Intelligence (AI): Brief History and Overviews -- 4. Generative AI Models For Sensor Data Processing -- 5. AI in optical fiber sensors and sensing network.
Sommario/riassunto	This book highlights the revolutionary effects of generative Artificial Intelligence (AI) on photonic sensing technologies, where intelligent

systems might improve precision, effectiveness, and applicability of light-based sensors. This book covers the basics of photonic sensors and explains their significance for a variety of applications in healthcare, environmental monitoring, autonomous systems, and industrial process industries. Readers will learn how generative AI is being used in important fields including optical imaging, optical fiber sensors, spectroscopy, and LIDAR systems. It also provides a guidance for researchers, engineers, and professionals working in the fields of optical sensing and artificial intelligence by fusing the rapidly developing discipline of generative AI with sophisticated photonic sensing.
