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Altri autori (Persone)	KumarSantosh KishorKamal RaiAmit
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Nota di contenuto	1. Introduction to Optical Fiber Sensors: Fundamentals and Applications -- 2. Advancements in Optical Fiber Sensor Technology -- 3. The Role of Artificial Intelligence in Enhancing Optical Fiber Sensors -- 4. AI Techniques for Signal Processing in Optical Fiber Sensors -- 5. Machine Learning for Real-Time Data Analysis in Fiber Optic Sensing.
Sommario/riassunto	This book highlights the exciting developments in optical fiber sensors and how artificial intelligence (AI) is boosting their performance and applications. It starts with an easy-to-understand introduction to the basics of optical fiber sensors and their many uses. Then, it moves on to the latest technological advancements, showing how AI is making these sensors smarter and more efficient. The book contains chapters

demonstrating how machine learning contributes to real-time data analysis and how deep learning enhances sensor systems. There is also a focus on designing better sensor networks with the help of AI. The book explains how combining AI with the Internet of Things (IoT) and optical fiber sensors can create smart infrastructure solutions. Real-world case studies illustrate how AI-enhanced fiber-optic sensors are benefiting fields like healthcare and environmental monitoring. The book wraps up with a look at future trends and challenges in the world of AI-powered optical fiber sensing. This book is perfect for researchers, engineers, and anyone interested in the powerful combination of AI and optical fiber technology. It provides valuable insights into how these technologies can work together to create innovative and practical solutions.
