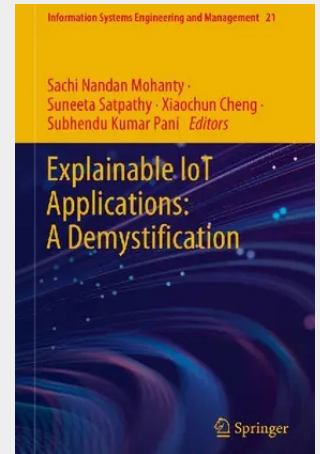


Explainable IoT Applications: A Demystification

Explainable IoT Application: A Demystification is an in-depth guide that examines the intersection of the Internet of Things (IoT) with AI and Machine Learning, focusing on the crucial need for transparency and interpretability in IoT systems. As IoT devices become more integrated into daily life, from smart homes to industrial automation, it is increasingly important to understand and trust the decisions they make. The book starts by covering the basics of IoT, highlighting its importance in modern technology and its wide-ranging applications in fields such as healthcare, transportation, and smart cities. It then delves into the concept of explainability, stressing the need to prevent IoT systems from being perceived as opaque, black-box operations. The authors explore various techniques and methods for achieving explainability, including rule-based systems and machine learning models, while also addressing the challenge of balancing explainability with performance. Through practical examples, the book shows how explainability can be successfully implemented in IoT applications, such as in smart healthcare systems.

Furthermore, the book addresses the significant challenges of securing IoT systems in an increasingly connected world. It examines the unique vulnerabilities that come with the widespread use of IoT devices, such as data breaches, cyberattacks, and privacy issues, and discusses the complexities of managing these risks. The authors emphasize the importance of implementing security strategies that strike a balance between fostering innovations and protecting user data. The book concludes with a comprehensive exploration of the challenges and opportunities in making IoT systems more transparent and interpretable, offering valuable insights for researchers, developers, and decision-makers aiming to create IoT applications that are both trustworthy and understandable.

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213,99 €

199,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783031748844

Medium: Buch

ISBN: 978-3-031-74884-4

Verlag: Palgrave Macmillan

Erscheinungstermin: 14.02.2025

Sprache(n): Englisch

Auflage: 2025

Serie: Information Systems Engineering and Management

Produktform: Gebunden

Gewicht: 992 g

Seiten: 485

Format (B x H): 160 x 241 mm

