

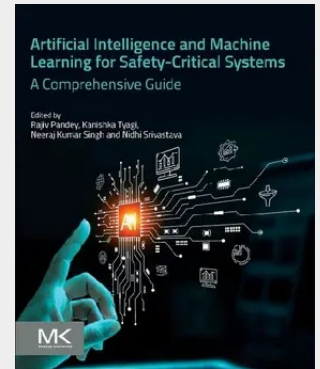
Artificial Intelligence and Machine Learning for Safety-Critical Systems

A Comprehensive Guide

Artificial Intelligence and Machine Learning for Safety-Critical Systems: A Comprehensive Guide provides engineers and system designers who are exploring the application of AI/ML methods for safety-critical systems with a dedicated resource on the challenges and mitigation strategies involved in their design. The book's authors present ML techniques in safety-critical systems across multiple domains, including pattern recognition, image processing, edge computing, Internet of Things (IoT), encryption, hardware accelerators, and many others. These applications help readers understand the many challenges that need to be addressed in order to increase the deployment of ML models in critical systems. In addition, the book shows how to improve public trust in ML systems by providing explainable model outputs rather than treating the system as a black box for which the outputs are difficult to explain. Finally, the authors demonstrate how to meet legal certification and regulatory requirements for the appropriate ML models. In essence, the goal of this book is to help ensure that AI-based critical systems better utilize resources, avoid failures, and increase system safety and public safety.

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