Convergence of Antenna Technologies, Electronics, and AI

Part of the Advances in Computational Intelligence and Robotics Book Series
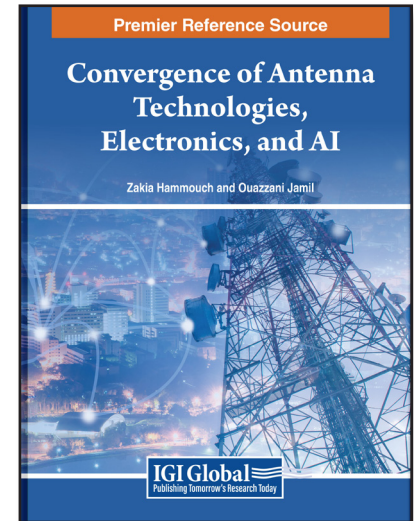
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Description:

In a rapidly evolving technological landscape, the integration of antenna technologies, electronics, and artificial intelligence (AI) poses a significant challenge: the complexity of these converging domains often surpasses the capacity of traditional educational resources and has been an area of research that is largely understudied. This creates a challenge for researchers attempting to gain a full understanding of the issue, as the lack of cohesive literature that bridges the gaps between these disciplines is significant. Researchers, engineers, and enthusiasts are hampered in their efforts to grasp the full potential of this convergence.

Convergence of Antenna Technologies, Electronics, and AI offers a unique perspective to this problem by synthesizing the fundamental principles, cutting-edge advancements, and practical applications of these interconnected domains. This book serves as a comprehensive guide for navigating the complexities of this multidisciplinary frontier. It provides a cohesive framework that not only elucidates the interconnections between antennas, electronics, and AI but also empowers readers to leverage this knowledge in developing transformative innovations.

Through its exploration of foundational principles, contemporary challenges, and future trajectories, this book inspires readers to envision and shape a future where seamless connectivity and intelligent systems redefine the boundaries of what is possible. This book catalyzes the next wave of innovation in communication, connectivity, and smart systems by offering a nuanced understanding of the convergence of technologies using antenna, and artificial intelligence.

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Topics Covered:

- Adaptive and Self-Learning Antennas
- Advancements in Electronics
- Artificial Intelligence in Communications
- Convergence of Antennas and Electronics
- Foundations of Antenna Technologies
- IoT and Connectivity
- Machine Learning Applications in Antenna Design
- Neural Networks for Pattern Recognition in Antenna Arrays
- Smart Antennas and Their Applications

Subject: Computer Science & Information Technology

Classification: Edited Reference

Readership Level: Advanced-Academic Level (Research Recommended)

Research Suitable for: Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners