Integrating Artificial Intelligence With Design

Part of the Advances in Computational Intelligence and Robotics Book Series

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Description:

Design processes face increasing complexity and demand for innovation, posing challenges for designers to deliver effective solutions. Integrating artificial intelligence (AI) presents a promising opportunity to enhance design methodologies and creativity. However, there is a need for comprehensive guidance on effectively integrating AI into the design process.

Integrating Artificial Intelligence With Design is a theoretical exploration and a practical guide supported by compelling case studies. It offers deep insights into how AI can transform design processes, exploring topics such as AI-enhanced design processes, AI-powered creativity, and the development of expression techniques with AI. This book is designed to equip designers with practical knowledge and insights, empowering them to confidently incorporate AI into their work.

In addition to addressing the theoretical aspects, the book delves into practical applications of AI in design technology and history. We examine the impact of AI on material selection, design optimization, and the digitization of design history. Furthermore, we explore AI's role in design communication, including its influence on computer-aided design (CAD) systems and simulation-based prototyping. By offering a comprehensive exploration of AI in design, this book aims to equip designers and researchers with the knowledge and tools needed to harness the full potential of AI in the design process.
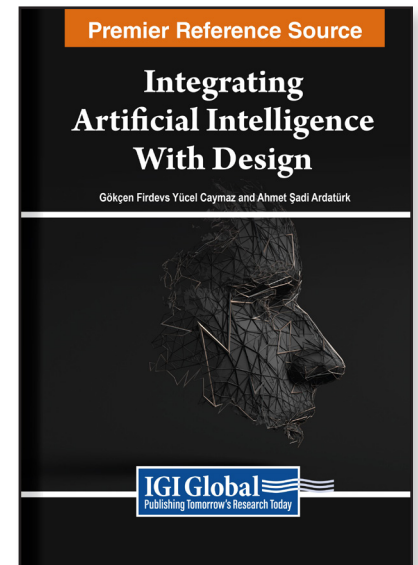
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Topics Covered:

- AI Innovations in Design
- AI-Enhanced Design Processes
- AI-Powered Creativity
- AI-Supported Expression Techniques in Design
- Computer-Aided Design (CAD) and AI
- Digitization and Design
- Impact of AI Integration on Designers
- Material Selection and Design Optimization
- Simulation and Prototyping
- Speed and Efficiency in Design Processes

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