

1. Record Nr.	UNINA9910461558703321
Autore	Khina B. B (Boris B.)
Titolo	Combustion synthesis of advanced materials [[electronic resource] /] / B.B. Khina
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61324-254-9
Descrizione fisica	1 online resource (124 p.)
Collana	Chemistry research and applications series
Disciplina	620.1/43
Soggetti	Self-propagating high-temperature synthesis Refractory materials - Heat treatment Refractory materials - Mathematical models Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. [93]-103) and index.

2. Record Nr.	UNINA9911025992103321
Autore	Gayathri N
Titolo	Generative AI : Disruptive Technologies for Innovative Applications
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2025 ©2025
ISBN	1-394-30291-6 1-394-30293-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (291 pages)
Altri autori (Persone)	KumarS. Rakesh ChandranRamesh RajPethuru PelusiDanilo
Disciplina	006.3
Soggetti	Artificial intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Series Page -- Title Page -- Copyright Page -- Contents -- Preface -- Chapter 1 Introduction to Generative AI -- 1.1 What is Generative AI -- 1.2 Difference Between AI, Machine Learning and Generative AI -- 1.3 History of Generative AI -- 1.4 Key Milestones and Continued Progress -- 1.4.1 Generative Adversarial Networks (GANs) -- 1.4.2 Variational Autoencoders (VAEs) -- 1.4.3 Autoregressive Models -- 1.4.4 Transformer Models -- 1.4.5 Recurrent Neural Networks and Long Short-Term Memory Networks -- 1.4.6 Energy-Based Models (EBMs) -- 1.4.7 Flow-Based Models -- 1.4.8 Diffusion Models -- 1.5 Exploring the Inner Workings of Generative AI: Understanding Large Language Models (LLMs) -- 1.6 LLMs vs. Generative AI -- 1.7 The Impact and Future of LLMs -- 1.8 Benefits of Generative AI -- 1.9 Risks of Generative AI -- 1.10 Evaluating Generative AI Models -- 1.11 Technical Challenges and Limitations of Gen AI -- 1.11.1 Continual Reliance on Data -- 1.11.2 Hallucinations -- 1.11.3 Lack of Creativity -- 1.11.4 Ethics and Privacy -- 1.12 Real Life Use Case of Gen AI -- 1.13 Conclusion -- References -- Chapter 2 Generative Adversarial Networks (GANs) -- 2.1 Introduction -- 2.2 Tale of Two Minds: Unveiling the GAN Mechanism -- 2.2.1 Origins -- 2.2.2

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## Sommario/riassunto

This book is essential for anyone eager to understand the groundbreaking advancements in generative AI and its transformative effects across industries, making it a valuable resource for both professional growth and creative inspiration. Generative AI: Disruptive Technologies for Innovative Applications delves into the exciting and rapidly evolving world of generative artificial intelligence and its profound impact on various industries and domains. This comprehensive volume brings together leading experts and researchers to explore the cutting-edge advancements, applications, and implications of generative AI technologies. This volume provides an in-depth exploration of generative AI, which encompasses a range of techniques such as generative adversarial networks, recurrent neural networks, and transformer models like GPT-3. It examines how these technologies enable machines to generate content, including text, images, and audio, that closely mimics human creativity and intelligence. Readers will gain valuable insights into the fundamentals of generative AI, innovative applications, ethical and social considerations, interdisciplinary insights, and future directions of this invaluable emerging technology. Generative AI: Disruptive Technologies for Innovative Applications is an indispensable resource for researchers, practitioners, and anyone interested in the transformative potential of generative AI in revolutionizing industries, unleashing creativity, and pushing the boundaries of what's possible in artificial intelligence. Audience AI researchers, industry professionals, data scientists, machine learning experts, students, policymakers, and entrepreneurs interested in the innovative field of generative AI.

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