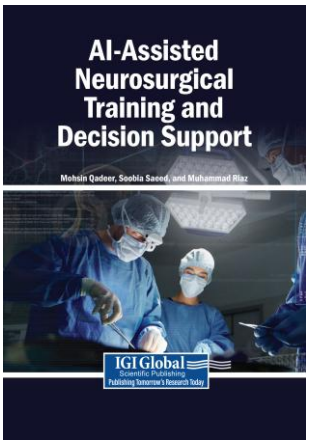
AI-Assisted Neurosurgical Training and Decision Support:



Mohsin Qadeer, (Ziauddin University, Pakistan)
Soobia Saeed, (Taylor's University, Malaysia)
Muhammad Riaz, (University of Colorado, USA & Denver Health Medical Center, Children's Hospital Colorado, USA)

Description:

Artificial intelligence (AI) transforms neurosurgery by enhancing surgical training and clinical decision-making. Through advanced machine learning algorithms, computer vision, and data-driven predictive models, AI-assisted systems analyze complex neurological data, simulate surgical procedures, and provide real-time guidance during operations. In neurosurgical education, these technologies offer immersive training environments, personalized feedback, and skill assessment tools that help refine techniques with greater precision and safety. AI-powered decision support systems improve diagnostic accuracy, treatment planning, and patient outcome prediction, enabling clinicians to make more informed and timely decisions. As neurosurgery evolves alongside digital innovation, AI emerges as a powerful tool that may further improve surgical performance, reduce risks, and advance patient care.

AI-Assisted Neurosurgical Training and Decision Support explores the application of AI, simulation technologies, robotics, and extended reality in changing the neurosurgery education and intraoperative decision-making landscape. It examines the need for trained neurosurgeons in AI-powered healthcare settings. This book covers topics such as neuroscience, deep learning, and data science, and is a useful resource for engineers, medical and healthcare professionals, academicians, researchers, and scientists.

ISBN: 9798337396507 **Pages:** 375 **Copyright:** 2026 **Release Date:** 6/5/2026

Hardcover: $235 **Softcover:** $195 **E-Book:** $225 **Hardcover + E-Book:** $235

Topics Covered:

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- Data Science
- Decision Support Systems
- Deep Learning
- Ethics & Law
- Medical Diagnostics
- Medical Technologies
- Neuroscience
- Neurosurgery
- Osteotomies
- Predictive Modeling
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