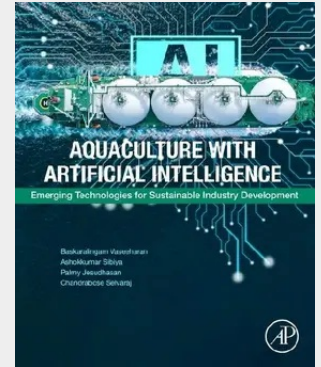


Aquaculture with Artificial Intelligence

Emerging Technologies for Sustainable Industry Development

Aquaculture with Artificial Intelligence: Emerging Technologies for Sustainable Industry Development will play in aquaculture and aquaculture-adjacent sectors in the coming years. The aquaculture industry faces various challenges, including environmental concerns, disease management, and resource optimization, and integrating AI into aquaculture practices can improve industry efficiency, sustainability, and overall productivity. This book explores how AI technologies such as machine learning for predictive analytics, computer vision for monitoring aquatic environments, and robotics for automated tasks can streamline various aspects of aquaculture requiring monitoring, management, and decision-making. Aquaculture with Artificial Intelligence: Smart Aquaculture is co-authored by a diverse team of experts bridging disciplines in aquaculture, aquatic immunology, biotechnology, and artificial intelligence. Early chapters provide a thorough introduction to the aquaculture industry to provide critical context for all audiences. Central chapters explore machine learning, bioimaging, drone technology, bioengineering, OMICs technologies, big data, and other AI technologies emerging in aquaculture. Global case studies highlight the practical applications of AI to various aspects of aquaculture operations, including automated feeding, water quality monitoring, disease protection, and precision aquaculture. The book concludes with a look to the future of the industry, research gaps, and opportunities for continued research. This is an essential read for aquaculturists, environmental scientists, data scientists, and roboticists interested in the intersection of aquaculture and AI.

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