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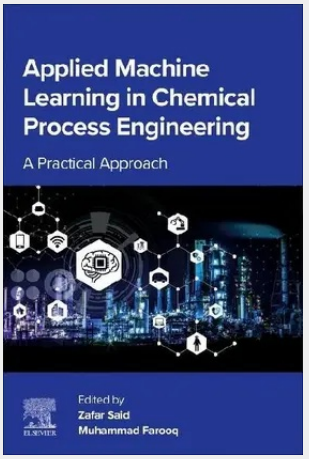
Applied Machine Learning in Chemical Process Engineering

A Practical Approach



As machine learning capabilities and functionality increases, more industry experts and researchers are integrating applied machine learning into their research. Applied Machine Learning in Chemical Process Engineering: A Practical Approach serves as a comprehensive guide to equip the reader with the fundamental theory, practical guidance, methodologies, experimental design and troubleshooting knowledge needed to integrate machine learning into their processes. This book offers a comprehensive overview of all aspects of machine learning, from inception to integration that will allow readers from any scientific discipline to begin to examine the capabilities of machine learning. This book will then build upon this overview to offer worked examples and case studies, alongside practical methods-based guidance to walk the reader through integrating machine learning end-to-end. Finally, this book will offer critical discussion of concepts that are interwoven into the ever-evolving principles of machine learning such as ethics, safety and culpability that are crucial when working with machine learning. Applied Machine Learning in Chemical Process Engineering: A Practical Approach will be an invaluable resource for researchers, professionals in industry and academia, and students at graduate level and above who work in chemical engineering and are looking to automate, optimize or intensify their chemical processes. This book will also help professionals in other disciplines and industries looking into integrate machine learning into their work, such as though looking to scale up their processes to an industrial scale or conduct novel research.

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