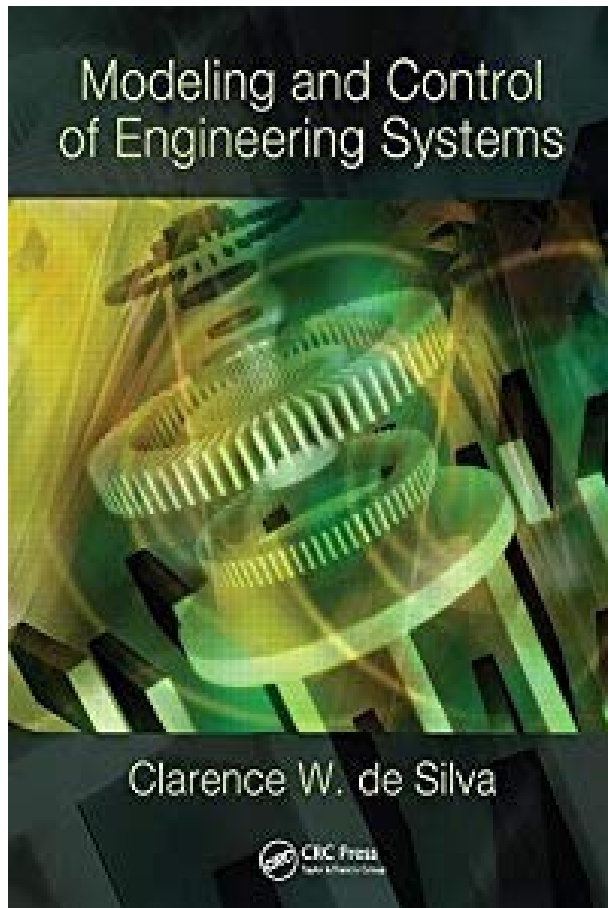


Modeling and Control of Engineering Systems



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Developed from the author's academic and industrial experiences, *Modeling and Control of Engineering Systems* provides a unified treatment of the modeling of mechanical, electrical, fluid, and thermal systems and then systematically covers conventional, advanced, and intelligent control, instrumentation, experimentation, and design. It includes theory, analytical techniques, popular computer tools, simulation details, and applications.

Overcoming the deficiencies of other modeling and control books, this text relates the model to the physical system and addresses why a particular control technique is suitable for controlling the system. Although MATLAB(R), Simulink(R), and LabVIEW(TM) are used, the author fully explains the fundamentals and analytical basis behind the methods, the choice of proper tools to analyze a given problem, the ways to interpret and validate the results, and the limitations of the software tools. This approach enables readers to thoroughly grasp the core foundation of the subject and understand how to apply the concepts in practice.

Control ensures accurate operation of a system.

Proper control of an engineering system requires a basic understanding and a suitable representation (model)

of the system. This book builds up expertise in modeling and control so that readers can further their analytical skills in hands-on settings.