

Systems, Cybernetics, Control, and Automation

Ontological, Epistemological, Societal, and Ethical Issues

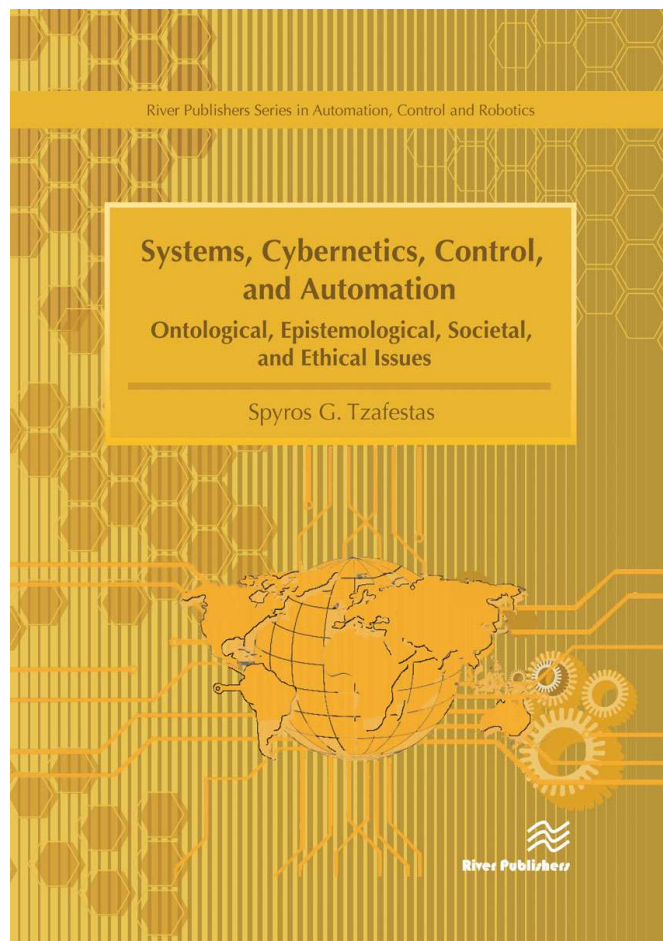
Author: Spyros G. Tzafestas, National Technical University of Athens, Greece

Systems, cybernetics, control, and automation (SCCA) are four interrelated and overlapping scientific and technological fields that have contributed substantially to the development, growth, and progress of human society. A large number of models, methods, and tools were developed that assure high efficiency of SCCA applied to practical situations. The real-life applications of SCCA encompass a wide range of man-made or biological systems, including transportations, power generation, chemical industry, robotics, manufacturing, cybernetics organisms (cyborgs), aviation, economic systems, enterprise, systems, medical/health systems, environmental applications, and so on. The SCCA fields exhibit strong influences on society and rise, during their use and application, many ethical concerns and dilemmas.

This book provides a consolidated and concise overview of SCCA, in a single volume for the first time, focusing on ontological, epistemological, social impact, ethical, and general philosophical issues. It is appropriate for use in engineering courses as a convenient tutorial source providing fundamental conceptual and educational material on these issues, or for independent reading by students and scientists.

Included in the book is:

- Background material on philosophy and systems theory
- Major ontological, epistemological, societal and ethical/philosophical aspects of the four fields that are considered in the book
- Over 400 references and a list of 130 additional books in the relevant fields
- Over 100 colored photos and 70 line figures that illustrate the text



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