Simulation Modeling and Arena. 2nd Edition

Description: Emphasizes a hands-on approach to learning statistical analysis and model building through the use of comprehensive examples, problems sets, and software applications

With a unique blend of theory and applications, Simulation Modeling and Arena®, Second Edition integrates coverage of statistical analysis and model building to emphasize the importance of both topics in simulation. Featuring introductory coverage on how simulation works and why it matters, the Second Edition expands coverage on static simulation and the applications of spreadsheets to perform simulation.

The new edition also introduces the use of the open source statistical package, R, both for performing statistical testing and for fitting distributions. In addition, the models are presented in a clear and precise pseudo-code form, which aids in understanding and model communication. Simulation Modeling and Arena, Second Edition also features:

- Updated coverage of necessary statistical modeling concepts such as confidence interval construction, hypothesis testing, and parameter estimation
- Additional examples of the simulation clock within discrete event simulation modeling involving the mechanics of time advancement by hand simulation
- A guide to the Arena Run Controller, which features a debugging scenario
- New homework problems that cover a wider range of engineering applications in transportation, logistics, healthcare, and computer science
- A related website with an Instructor’s Solutions Manual, PowerPoint® slides, test bank questions, and data sets for each chapter

Simulation Modeling and Arena, Second Edition is an ideal textbook for upper-undergraduate and graduate courses in modeling and simulation within statistics, mathematics, industrial and civil engineering, construction management, business, computer science, and other departments where simulation is practiced. The book is also an excellent reference guide for professionals interested in mathematical modeling, simulation, and Arena.

Manuel D. Rossetti, PhD, is Professor in the Industrial Engineering Department at the University of Arkansas. Dr. Rossetti has published over 85 journal and conference articles. In 2013, he received the Charles and Nadine Baum Teaching Award for the University of Arkansas, the highest teaching honor bestowed at the university. His research interests include the design, analysis, and optimization of logistics, manufacturing, health care, and transportation systems using computer simulation and operations research techniques.

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