Journey to Data Quality, Yang W. Lee, Leo L. Pipino, James D. Funk, and Richard Y. Wang. All organizations today confront data quality problems, both systemic and structural. Neither ad hoc approaches nor fixes at the systems level—installing the latest software or developing an expensive data warehouse—solve the basic problem of bad data quality practices. This book offers a roadmap that practitioners, executives, and students can use to plan and implement a viable data- and information-quality-management program. It describes the challenges of data management and provides the principles, strategies, tools, and techniques necessary to meet them. The authors describe how to make the economic case for data quality and discuss the importance of getting an organization’s leaders on board. They outline different approaches for assessing data, both subjectively and objectively, and describe real problems and solutions.

MIT Press; mitpress.mit.edu; 0-262-12287-1; 280 pp.

Modeling Software with Finite State Machines: A Practical Approach, Ferdinand Wagner, Ruedi Schmuki, Thomas Wagner, and Peter Wolstenholme. This book explains how to apply finite state machines in an unusually intensive way to software development. The first section summarizes the insufficiencies of today’s software development methods. The second section explains the importance of the state machine concept in the software design domain.

The book provides definitions and details required for successful and complete behavior modeling, avoiding generation of code. This includes rules for designing a state machine and for composing a complex system of multiple state machines communicating with each other. The authors also describe a practical and mature implementation of the concepts explained in the second part, augmented by many appendices.

CRC Press; www.crcpress.com; 0-8493-8086-3; 392 pp.

Practical Software Estimation: Function Point Methods for Insourced and Outsourced Projects, M.A. Parthasarathy. This book brings together valuable tips, techniques, and best practices for accurately estimating software project efforts, costs, and schedules. It addresses the full spectrum of real-world challenges faced by those who must develop reliable estimates.

The author draws on the immense experience of Infosys, a large provider of IT-enabled business solutions, to supply detailed guidance on estimating insourced and outsourced software projects as well as projects that blend both approaches. He demonstrates how to successfully utilize function-point methods, the industry’s leading estimation model. Then, using real case studies, the author systematically identifies pitfalls that can lead to inaccurate estimates—and offers proven solutions.

Addison-Wesley; www.awprofessional.com; 0-321-43910-4; 432 pp.

Linear Genetic Programming, Markus Brameier and Wolfgang Banzhaf. This book presents a variant of genetic programming (GP) that evolves imperative computer programs as linear sequences of instructions, in contrast to the more traditional functional expressions or syntax trees. Primary characteristics of linear program structure are exploited to achieve acceleration of both execution time and evolutionary progress.

Online analysis and optimization of program code lead to more efficient techniques and contribute to a better understanding of the method and its parameters. In particular, the reduction of structural variation step size and noneffective variations play a key role in finding higher quality and less complex solutions. Typical GP phenomena, such as noneffective code, neutral variations, and code growth are investigated from the perspective of linear GP.

Springer; www.springer.com; 0-387-31029-0; 316 pp.

Complex Analysis with Mathematica, William T. Shaw. This book offers teachers and students an opportunity to learn about complex numbers in a state-of-the-art computational environment. The innovative approach also offers insights into many areas too often neglected in a student treatment, including complex chaos and mathematical art. Thus, readers can also use the book for self-study and enrichment. Students are led, optionally, into cubic or quartic equations, investigations of symmetric chaos, and advanced conformal mapping.

Cambridge University Press; www.cambridge.org; 0-521-83626-3; 598 pp.

Utility Computing: Technologies, Standards, and Strategies, Alfredo Mendoza. Providing expert guidance on integrating utility computing within an organization, this timely resource offers a unified view of this increasingly important service-provisioning model. The book explains the rationale behind utility computing strategies from major vendors, provides a thorough description of utility computing technologies, and can help readers identify the specific utility computing solutions that best suit their organization.


Send book announcements to newbooks@computer.org.