Laying the Foundation for Pervasive Computing

Pervasive Computing, Uwe Hansmann, Lother Merk, Martin S. Nicklous, and Thomas Strober. This book describes a new class of computing devices that make information access and processing easily available from anywhere, for everyone, at any time. The authors catalog these front-end devices, their operating systems, and the back-end infrastructure that integrates these pervasive components into a seamless IT world.

The book strongly emphasizes the underlying technologies and standards applied when building pervasive solutions. This second edition now covers voice, Web application servers, portals, Web services, and synchronized device management.

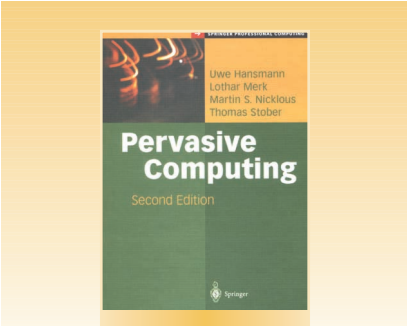
The authors also provide an overview of today's real-life applications and accompanying service offerings, including m-commerce, e-business, and networked home, travel, and finance applications.

Springer; www.springer-ny.com; 3-540-00218-9; 448 pp.; $49.95.

INTEGRATED APPROACH TO DATA HANDLING

Exploratory Data Mining and Data Cleaning, Tamraparni Dasu and Theodore Johnson. This book uses an integrated approach to data exploration and data cleaning to develop a suitable modeling strategy that will help analysts more effectively determine and implement the final technique.

The authors present a brief overview of the main analytical techniques used



in data mining practices, such as univariate and multivariate summaries of attributes and their interactions. They also provide many references to the related literature on clustering, classification, regression, and more; focus on developing an evolving modeling strategy through an iterative data exploration loop and incorporation of domain knowledge; address methods of detecting, quantifying, and correcting data quality issues that significantly affect findings and decisions; and use case studies to illustrate applications in real-life scenarios.

Wiley Interscience; www.wiley.com; 0-471-26851-8; 224 pp.; $69.95.

MAKING THEORY PRACTICAL

Modern Cryptography: Theory & Practice, Wenbo Mao. The author uses real-world scenarios to explain why textbook crypto schemes, protocols, and systems are profoundly vulnerable. He goes on to show how readers can determine which cryptographic systems and protocols are truly fit for application, then formally demonstrates their fitness. In addition to providing the mathematical background readers will need to understand the material, the author illustrates his narrative with practical examples throughout.

Topics covered include crypto foundation components such as probability, information theory, and computational complexity; authentication; evaluation of real-world protocol standards such as IPSec, IKE, and SSH; and guidance in developing progressively stronger security measures as well as designing stronger counterparts to vulnerable textbook crypto schemes.

Prentice Hall PTR; www.phptr.com; 0-13-066943-1; 648 pp.; $54.99.

DETAILED LOOK AT SYSTEMS TESTING

Testing of Digital Systems, Nirah Jha and Sandeep Gupta. Device testing represents the single largest manufacturing expense in the semiconductor industry, costing more than $40 billion a year. Starting with the basics, the authors step readers through automatic test pattern generation, design for testability, and built-in self-test of digital circuits. They then proceed to cover more advanced topics, including fault diagnosis and IDDQ, functional, delay-fault, and memory testing.

The book's detailed treatment of the latest techniques includes test generation for various fault models, discussion of testing techniques at different levels of the integrated-circuit hierarchy, and a full chapter on system-on-a-chip test synthesis. It also highlights new approaches and methodologies such as DataSphere space partitioning and summary-based analysis techniques.

Cambridge University Press; www.cambridge.org; 0-521-77356-3; 1,016 pp.; $95.00.

Editor: Michael J. Lutz, Rochester Institute of Technology, Rochester, NY; mikelutz@mail.rit.edu. Send press releases and new books to *Computer*, 10662 Los Vaqueros Circle, Los Alamitos, CA 90720; fax +1 714 821 4010; newbooks@computer.org.