

## Books by the faculty

Over the years, CS has contributed internationally to education and research through its texts and monographs. The department is proud to have faculty-authored texts that set the standard for the field in algorithms, automata theory and languages, computa-

tional complexity, compiler construction, information retrieval, numerical analysis, programming methodology, theory of scheduling, and more. Two NRC reports, by Hartmanis and by Schneider, have had a national impact. Only the first edition of each book is listed.

**2005**

Bala, K., P. Dutre (eds.). *Rendering Techniques 2005*. Springer-Verlag

Birman, K. *Reliable Distributed Systems: Technologies, Web Service, and Applications*. Springer-Verlag

Kleinberg, J., E. Tardos. *Algorithm Design*. Addison-Wesley.

**2004**

Gries, D., P. Gries. *Multimedia Introduction to Programming Using Java*. Springer-Verlag

Van Renesse, R. *Understanding Ukulele Chords*. Mel Bay Pub.

**2003**

Bala, K., P. Dutre, P. Bekaert. *Advanced Global Illumination*. AK Peters, Ltd.

Halpern, J. *Reasoning About Uncertainty*. MIT Press

**2001**

Hopcroft, J.E., R. Motwani, and J.D. Ullman, *Introduction to Automata Theory, Languages, and Computation*. Addison-Wesley

**2000**

Arms, W. *Digital Libraries*. MIT Press

Gries, D., P. Gries. *ProgramLive. Data Description*

Kozen, D., D. Harel, J. Tiuryn. *Dynamic Logic*. MIT Press

Van Loan, C. *Introduction to Scientific Computing: A Matrix Approach Using MATLAB*. Prentice Hall

**1999**

Gries, D., W. de Roever (eds.). *Programming Concepts and Methods, PROCOMET '98*. Chapman and Hall

Ramakrishnan, R., J. Gehrke. *Database Management Systems*, 2nd edition. McGraw-Hill

Schneider, F.B. *Trust in Cyberspace*. National Academy Press

Schwartz, D. *Introduction to Maple*. Prentice Hall

Schwartz, D. *Introduction to UNIX*. Prentice Hall

**1997**

Birman, K. *Building Secure and Reliable Network Applications*. Prentice Hall

Keshav, S. *An Engineering Approach to Computer Networking: ATM Networks, the Internet, and the Telephone Network*. Addison-Wesley

Kozen, D. *Automata and Computability*. Springer-Verlag

Schneider, F.B. *On Concurrent Programming*. Springer-Verlag

Trefethen, N., D. Bau III. *Numerical Linear Algebra*. SIAM

**1996**

Van Loan, C. *Introduction to Computational Science and Mathematics*. Jones & Bartlett

**1995**

Halpern, J., R. Fagin, Y. Moses, M. Vardi. *Reasoning About Knowledge*. MIT Press

**1994**

Birman, K., R. Van Renesse. *Reliable Distributed Computing with Isis Toolkit*. IEEE Computer Society Press

**1993**

Gries, D., F.B. Schneider. *A Logical Approach to Discrete Math*. Springer-Verlag

Gries, D., F.B. Schneider. *Instructor's Manual for "A Logical Approach to Discrete Math"*. CS, Cornell.

**1992**

Donald, B.R., D. Kapur, J.L. Mundy. *Symbolic and Numerical Computation for Artificial Intelligence*. Academic Press

Hartmanis, J.H. *Computing the Future*. National Academy Press

Van Loan, C. *Computational Frameworks for the Fast Fourier Transform*. SIAM

Zippel, R.E. *Computer Algebra and Parallelism*. Kluwer

**1991**

Kozen, D. *The Design and Analysis of Algorithms*. Springer-Verlag

Vavasis, S. *Nonlinear Optimization: Complexity Issues*. Oxford Science

**1990**

Coleman, T.F., Y. Li. *Large-Scale Numerical Optimization*. SIAM

Donald, B.R., et al. *Robotics*. American Mathematics Society

Feijen, W.H.J., A.J.M van Gasteren, D. Gries, J. Misra (eds.). *Beauty is our Business*. Springer-Verlag

**1989**

Salton, G. *Automatic Text Processing: The Transformation, Analysis, and Retrieval of Information by Computer*. Addison-Wesley

**1988**

Coleman, T.F., C. Van Loan. *Handbook for Matrix Computations*. SIAM

Teitelbaum, T., T.W. Reps. *The Synthesizer Generator: A System for Constructing Language-Based Editors*. Springer-Verlag

Teitelbaum, T., T.W. Reps. *The Synthesizer Generator Reference Manual*. Springer-Verlag

**1986**

Constable, R.L., S.F. Allen, et al. *Implementing Mathematics with the Nuprl Proof Development System*. Prentice Hall

Trefethen, N. *Numerical Conformal Mapping*. Elsevier

**1985**

E.L. Lawler, J.K. Lenstra, A.H.G. Rinnooy Kan, D.B. Shmoys (eds.). *The Traveling Salesman Problem*. Wiley

**1984**

Van Loan, C., G. Golub. *Matrix Computations*. John Hopkins University Press

**1983**

Hopcroft, J., A. Aho, J.D. Ullman. *Data Structures and Algorithms*. Addison-Wesley

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**1982**

Coleman, T.F. *Large Sparse Numerical Optimization*. Springer-Verlag

Constable, R.L., S.D. Johnson, C.D. Eichenlaub. *An Introduction to the PL/CV2 Programming Logic*. Springer-Verlag

**1981**

Gries, D. *The Science of Programming*. Springer-Verlag

**1979**

Conway, R., C. Bass, M. Fay, D. Gries. *An Introduction to Microprocessor Programming*. Winthrop

Conway, R., J. Archer. *Programming for Poets: Using Basic*. Winthrop

Conway, R., J. Archer. *Programming for Poets: Using Pascal*. Winthrop

Conway, R., D. Gries. *An Introduction to Programming: A Structured Approach Using PL/I and PL/C*. Winthrop

Gries, D. (ed.). *Programming Methodology: a Collection of Articles by Members of IFIP WG2.3*. Springer-Verlag

Hopcroft, J.E., J.D. Ullman. *Introduction to Automata Theory, Languages, and Computation*. Addison-Wesley

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Hartmanis, J. *Feasible Computations and Provable Complexity Properties*. SIAM

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Constable, R.L., M.J. O'Donnell. *A Programming Logic*. Winthrop

Constable, R.L., S. Johnson. *PL/CV2 Program Verifier Reference Manual*. CS, Cornell.

**1977**

Conway, R., D. Gries, D. Wortman. *Introduction to Structured Programming, Using SP/k*. Winthrop

Conway, R. *A Primer on Disciplined Programming*. Winthrop

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Conway, R., D. Gries, E.C. Zimmerman. *Primer on PASCAL*. Winthrop

Conway, R., D. Gries. *Primer on Structured Programming*. Winthrop

**1975** LECTURES AND ALGORITHMS

Salton, G. *Dynamic Information and Library Processing*. Prentice Hall

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**1967**

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Conway, R., W.L. Maxwell, L.W. Miller. *Theory of Scheduling*. Addison-Wesley

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