



Grid computing, peer-to-peer computing, cloud computing are emergent fields that have attracted academia and industry over the last few years. It is expected that they will have a huge impact on many areas in business, science and engineering and society at large. The timely publication of this textbook will bring the newest technologies in distributed computing to students.

—Yi Pan, Dept. of Computer Science, Georgia State University

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Distributed and Cloud Computing

From Parallel Processing to the Internet of Things

By Kai Hwang, Geoffrey C. Fox, and Jack J. Dongarra

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About the Book:

From the leading minds in the field, *Distributed and Cloud Computing* is the first modern, up-to-date distributed systems textbook. Starting with an overview of modern distributed models, the book exposes the design principles, systems architecture, and innovative applications of parallel, distributed, and cloud computing systems. It will teach you how to create high-performance, scalable, reliable systems, providing comprehensive coverage of distributed and cloud computing, including:

- Facilitating management, debugging, migration, and disaster recovery through virtualization
- Clustered systems for research or e-commerce applications
- Designing systems as web services
- Social networking systems using peer-to-peer computing
- Principles of cloud computing using examples from open-source and commercial applications

Using examples from open-source and commercial vendors, the text describes cloud-based systems for research, e-commerce, social networking and more.

Key Features:

- Complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing
- Includes case studies from the leading distributed computing vendors: Amazon, Microsoft, Google, and more
- Designed to meet the needs of students taking a distributed systems course, each chapter includes exercises and further reading, with lecture slides and solutions available online

About the Authors:

Kai Hwang is a Professor of Computer Engineering, University of Southern California and an IV-endowed visiting Chair Professor, Tsinghua University, China. He earned a Ph.D. in EECS from University of California at Berkeley. An IEEE Life Fellow, He has published extensively in computer architecture, digital arithmetic, parallel processing, distributed systems, Internet security, and cloud computing. He has founded the Journal of Parallel and Distributed Computing and delivered dozens of keynote addresses in major IEEE/ACM Conferences.

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