COMPUTER ORGANIZATION AND DESIGN

THE HARDWARE/SOFTWARE INTERFACE



In Praise of Computer Organization and Design: The Hardware/ Software Interface, Fifth Edition

"Textbook selection is often a frustrating act of compromise—pedagogy, content coverage, quality of exposition, level of rigor, cost. *Computer Organization and Design* is the rare book that hits all the right notes across the board, without compromise. It is not only the premier computer organization textbook, it is a shining example of what all computer science textbooks could and should be."

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"The new edition of *Computer Organization and Design* keeps pace with advances in emerging embedded and many-core (GPU) systems, where tablets and smartphones will are quickly becoming our new desktops. This text acknowledges these changes, but continues to provide a rich foundation of the fundamentals in computer organization and design which will be needed for the designers of hardware and software that power this new class of devices and systems."

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"The Fifth Edition of *Computer Organization and Design* provides more than an introduction to computer architecture. It prepares the reader for the changes necessary to meet the ever-increasing performance needs of mobile systems and big data processing at a time that difficulties in semiconductor scaling are making all systems power constrained. In this new era for computing, hardware and software must be codesigned and system-level architecture is as critical as component-level optimizations."

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"Patterson and Hennessy brilliantly address the issues in ever-changing computer hardware architectures, emphasizing on interactions among hardware and software components at various abstraction levels. By interspersing I/O and parallelism concepts with a variety of mechanisms in hardware and software throughout the book, the new edition achieves an excellent holistic presentation of computer architecture for the PostPC era. This book is an essential guide to hardware and software professionals facing energy efficiency and parallelization challenges in Tablet PC to cloud computing."

—Jae C. Oh, Syracuse University