The Art of High Performance Computing for Computational Science, Vol. 1: Techniques of Speedup and Parallelization for General Purposes (Hardback)

By -

Springer Verlag, Singapore, Singapore, 2019. Hardback. Condition: New. 1st ed. 2019. Language: English. Brand new Book. This book provides basic and practical techniques of parallel computing and related methods of numerical analysis for researchers who conduct numerical calculation and simulation. Although the techniques provided in this book are field-independent, these methods can be used in fields such as physics, chemistry, biology, earth sciences, space science, meteorology, disaster prevention, and manufacturing. In particular, those who develop software code in these areas will find this book useful. The contents are suitable for graduate students and researchers in computational science rather than novices at programming or informed experts in computer science.Starting with an introduction to the recent trends in computer architecture and parallel processing, Chapter 1 explains the basic knowledge of speedup programs with simple examples of numerical computing. Chapters 2 - 4 detail the basics of parallel programming, the message passing interface (MPI), and OpenMP and discuss hybrid parallelization techniques. Showing an actual example of adaptation, Chapter 5 gives an overview of performance tuning and communication optimizations. To deal with dense matrix calculations, Chapter 6 details the basics and practice of linear algebra calculation libraries BLAS and LAPACK, including some examples that...

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This book is definitely not simple to begin on studying but quite fun to see. I actually have read and that i am sure that i will gonna read through yet again once again in the foreseeable future. It is extremely difficult to leave it before concluding, once you begin to read the book.
-- Brennan Koelpin

Comprehensive guide! Its this type of very good read through. It is actually writter in simple words and phrases rather than difficult to understand. It is extremely difficult to leave it before concluding, once you begin to read the book.
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