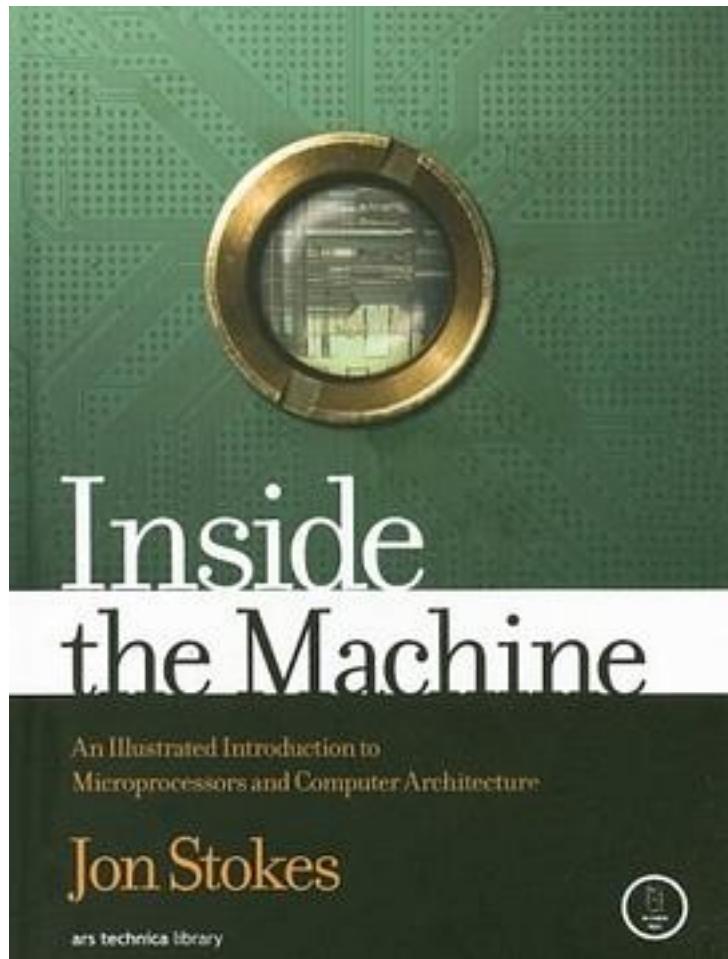


Inside the Machine



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Computers perform countless tasks ranging from the business critical to the recreational, but regardless of how differently they may look and behave, they're all

amazingly similar in basic function. Once you understand how the microprocessor-or central processing unit (CPU)-works, you'll have a firm grasp of the fundamental concepts at the heart of all modern computing.

Inside the Machine, from the co-founder of the highly respected Ars Technica website, explains how microprocessors operate-what they do and how they do it. The book uses analogies, full-color diagrams, and clear language to convey the ideas that form the basis of modern computing. After discussing computers in the abstract, the book examines specific microprocessors from Intel, IBM, and Motorola, from the original models up through today's leading processors. It contains the most comprehensive and up-to-date information available (online or in print) on Intel's latest processors: the Pentium M, Core, and Core 2 Duo. Inside the Machine also explains technology terms and concepts that readers often hear but may not fully understand, such as "pipelining," "L1 cache," "main memory," "superscalar processing," and "out-of-order execution."

Includes discussion of:

Parts of the computer and microprocessor

Programming fundamentals (arithmetic instructions, memory accesses, control flow instructions, and data types)

Intermediate and advanced microprocessor concepts (branch prediction and speculative execution)

Intermediate and advanced microprocessor concepts (branch prediction and speculative execution)

Intermediate and advanced computing concepts (instruction set architectures, RISC and CISC, the memory hierarchy, and encoding and decoding machine language instructions)

64-bit computing vs. 32-bit computing

Caching and performance

Inside the Machine is perfect for students of science and engineering, IT and business professionals, and the growing community of hardware tinkerers who like to dig into the guts of their machines.

作者介绍:

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标签

计算机系统

cpu

architecture

计算机

computer

计算机科学

计算机技术

编译原理

评论

总算翻完了，只懂了一部分

科普读物。

考博复习休息看的，其实还没看完。

虽然比较老，但是内容编排还是不错的

前面几章和cache的那章很好

This book was introduce a dozens of basic concepts of CPU, including ALU, memory, bus, cache, instruction executions, pipeline, etc. And it also took some real world CPU as examples to dissect, such as classic x86 and PowerPC.

太科普了。。。。

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书评

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