Inside the Machine: An Illustrated Introduction to Microprocessors and Computer Architecture

Von Jon Stokes
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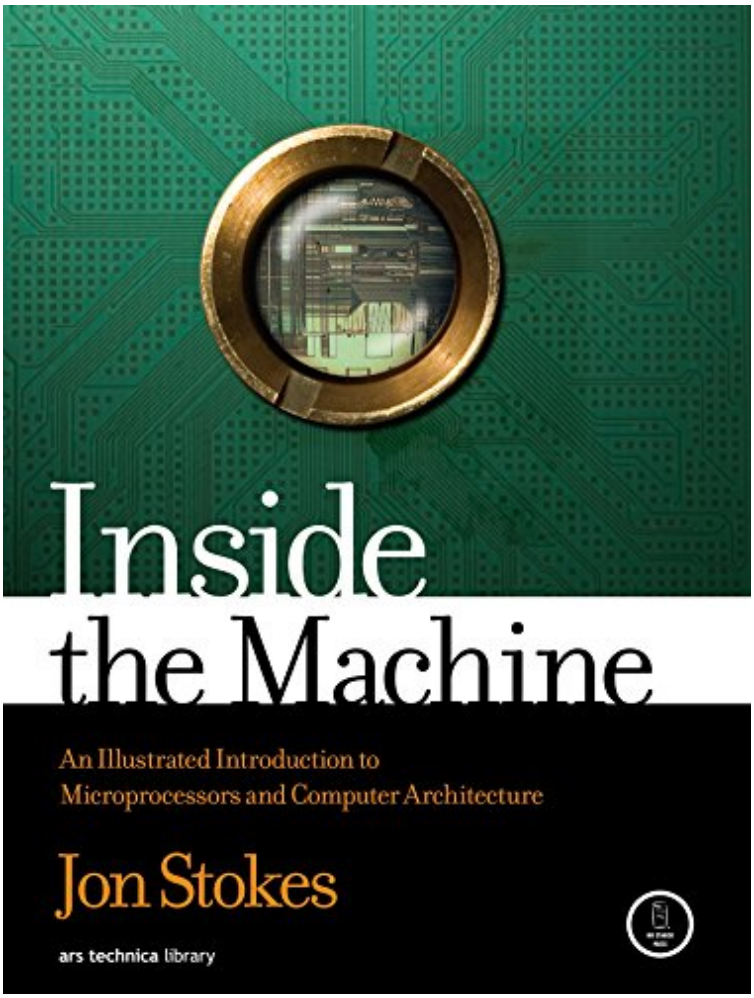

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Von Jon Stokes : Inside the Machine: An Illustrated Introduction to Microprocessors and Computer Architecture before purchasing it in order to gage whether or not it would be worth my time, and all praised Inside the Machine: An Illustrated Introduction to Microprocessors and Computer Architecture:

KundenrezensionenHilfreichste Kundenrezensionen2 von 2 Kunden fanden die folgende Rezension hilfreich. Es gibt bessere Bcher zu diesem ThemaVon Hans-Wurst"Inside the Machine" von Jon Stokes verspricht dem Leser eine Einfhrung in die Arbeitsweise von Mikroprozessoren, die ihn auf weiterfhrende Literatur wie die Bcher von Hennessy und Patterson oder Tanenbaum vorbereiten soll.Die ersten Kapitel beschftigen sich mit den Grundlagen, angefangen mit Maschinensprache, ber Pipelining und Superscalar Execution. Nach diesen ersten Kapiteln, widmet sich der Rest des Buches dann dem Vergleich verschiedener Mikroprozessoren, angefangen bei dem originalen Intel Pentium, ber

die P6 Prozessoren (Pentium Pro, Pentium II, Pentium III) bishin zu der NetBurst Architektur des Pentium 4 und den neueren Core Prozessoren. Verglichen werden diese jeweils mit einer, von der Leistung hnlichen, PowerPC CPU. Das ist ansich auch durchaus interessant, nur irgendwann wird es langweilig und oftmals lesen sich die Texte mehr wie reine Factsheets. Man bekommt zwar einen (sehr) guten berblick ber die CPUs in Desktop Computern der letzten 15 Jahre, aber die Erklrungen sind oftmals viel zu knapp gehalten. Es wre meines Erachtens sinnvoller gewesen, man htte sich auf 1-2 Mikroprozessoren beschrnkt und diese dafr bis ins kleinste Detail beschrieben.Die Erklrungen und Abbildungen in diesem Buch sind leider hin und wieder eher verwirrend als hilfreich und insgesamt zu oberflchlich. Der Schreibstil ist leider stellenweise etwas trocken und ermdend, dies gilt besonders fr die spteren Kapitel; Die weiter oben genannten Bcher sind meines Erachtens besser, denn sie gehen viel mehr ins Detail und ihre Erklrungen sind verstndlicher.Der Vollstndigkeit halber hier noch ein Blick ins Inhaltsverzeichnis des Buches:1. Basic Computing Concepts2. The Mechanics of Program Execution3. Pipelined Execution4. Superscalar Execution5. The Intel Pentium and Pentium Pro6. PowerPC Processors: 600 Series, 700 Series, and 74007. Intel's Pentium 4 vs. Motorola's G4e: Approaches and Design Philosophy8. Intel's Pentium 4 vs. Motorola's G4e: The Back End9. 64-Bit Computing and x86-6410. The G5: IBM's PowerPC 97011. Understanding Caching and Performance12. Intel's Pentium M, Core Duo and Core 2 Duo"Inside the Machine" ist keineswegs ein schlechtes Buch, aber man muss es nicht gelesen haben und es gibt bessere Einstiegsliteratur zu diesem Thema, z.B. "Structured Computer Organization" von Andrew S. Tanenbaum oder "Computer Organization and Design: The Hardware/Software Interface" von John L. Hennessy. Wer also eine Einfhrung sucht, der sollte lieber gleich zu einem der bewhrten Standardwerke greifen.1 von 1 Kunden fanden die folgende Rezension hilfreich. Microprocessor architecture easy to understandVon SZIf you have some basic technical understanding, but never got deeply into processor architecture, this book should be very useful for you. After reading this book you will be able to understand at least the ideas of most discussions in this area.Starting from the basics - you never dared to ask - Jon Stokes leads you into the details of the Pentium and PowerPC architectures. Stokes explains fundamental processor architectures and program execution mechanisms in an easy to understand manner. But with well illustrated examples, he also succeeds to elaborate state of the art techniques such as pipelining, super-scalar execution and caching.If you just want to understand the principles, the real-life Pentium and PowerPC examples go sometimes a bit too deep. But it doesn't hurt the further understanding, if you skip some of them.The book contains an extensive bibliography mainly on Pentium and PowerPC, but also some standard works.Altogether, one of the best understandable primers in this area.

KurzbeschreibungComputers 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 microprocessoror 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 operatewhat 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 Intels 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 microprocessorProgramming fundamentals (arithmetic instructions, memory accesses, control flow instructions, and data types)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 computingCaching and performanceInside 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.KurzbeschreibungComputers 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 microprocessoror 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 operatewhat 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 Intels 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

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