

Great Writings in Computing

CSE 1101 Computing Disciplines and Careers

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Contents

Abstract

As a student in the computer sciences you will want to read some of the great writings in these disciplines. This is a collection of what I and others believe are important books, articles, papers, code, etc., which are recommended reading.

The collection is by no means complete and I welcome suggested additions to it. There are some qualifications that must be met for inclusion, and some reasons to exclude certain writings although they may be important. To be included, the writing should have had a fundamental impact on how the subject is viewed, it should provide one of the best descriptions of the subjects, and it should be enjoyable to read. In general, most textbooks will be excluded as will reference manuals and programming guides.

The writing are subjectively marked as beginning, intermediate, or advanced to indicate a perceived level of achievement that must be met to appreciate the work. Beginning works

should be accessible to anyone in the field. The writings are not, however, selected for a lay person to read. As a guide, beginning works should be accessible to an undergraduate in the computer sciences; intermediate works should be accessible to advanced undergraduates or beginning graduate students in the computer sciences; and advanced works should be accessible to advanced graduate students.

Great Writings in Computer Architecture

David A. Patterson and John L. Hennessy. *Computer Architecture: A Quantitative Approach*. Morgan Kaufmann Publishers, Inc., second edition, 1996. ISBN 1558603298.

Great Writings in Data Structures and Algorithms

Jon Louis Bentley. *Programming Pearls*. Addison-Wesley, 1986.

Jon Louis Bentley. *More Programming Pearls: Confessions of a Coder*. Addison-Wesley, 1988.

Donald E. Knuth. *The Art of Computer Programming: Fundamental Algorithms*, volume 1. Addison-Wesley, 3rd edition, 1997a.

Donald E. Knuth. *The Art of Computer Programming: Seminumerical Algorithms*, volume 2. Addison-Wesley, 3rd edition, 1997b.

Donald E. Knuth. *The Art of Computer Programming: Sorting and Searching*, volume 3. Addison-Wesley, 3rd edition, 1998.

Great Writings in Computing Fiction

Lewis Carroll, Martin (Editor) Gardner, and John (Illustrator) Tenniel. *The Annotated Alice: The Definitive Edition*. W. W. Norton, 2000.

Christos H. Papadimitriou. *Turing (A Novel About Computation)*. The MIT Press, 2003.

Great Writings in Computer Graphics

James Arvo, editor. *Graphics Gems II*. Academic Press, 1991. [Intermediate].

Jim Blinn. *Jim Blinn's Corner: a trip down the graphics pipeline*. Morgan Kaufmann Publishers, Inc., 1996. [Intermediate].

Jim Blinn. *Jim Blinn's Corner: dirty pixels*. Morgan Kaufmann Publishers, Inc., 1998. [Intermediate].

Andrew S. Glassner, editor. *Graphics Gems*. Academic Press, 1990. [Intermediate].

Paul Heckbert, editor. *Graphics Gems IV*. Academic Press, 1994. [Intermediate].

David Kirk, editor. *Graphics Gems III*. Academic Press, 1992. [Intermediate].

Alan Paeth, editor. *Graphics Gems V*. Academic Press, 1996. [Intermediate].

Edward R. Tufte. *The Visual Display of Quantitative Information*. Graphics Press, 1983.

Edward R. Tufte. *Envisioning Information*. Graphics Press, 1990.

Great Writings in Computing History

Alexander Keewatin Dewdney. *The (New) Turing Omnibus: 66 excursions in computer science*. Computer Science Press, New York, New York, 1993. ISBN 0-7167-8271-5.

Douglas R. Hofstadter. *Gödel, Escher, Bach: An Eternal Golden Braid. 20th Anniversary Edition*. Basic Books, New York, New York, 1999. ISBN 0465026567.

Robert Slater. *Portraits in Silicon*. MIT Press, Cambridge, Massachusetts, 1987. ISBN 0262192624.

Great Writings in Software Development

Jon Louis Bentley. *Writing Efficient Programs*. Prentice-Hall, 1982.

Andrew Hunt and David Thomas. *The Pragmatic Programmer: From Journeyman to Master*. Addison-Wesley, 2000. ISBN 0-201-61622-X.

Brian W. Kernighan and Rob Pike. *The Practice of Programming*. Addison-Wesley, 1999. ISBN 020161586X.

Brian W. Kernighan and P. J. Plauger. *Software Tools in Pascal*. Addison-Wesley, 1981.

Brian W. Kernighan and Dennis M. Ritchie. *The C Programming Language*. Prentice Hall, second edition, 1988.

Steve McConnell. *Code Complete: A Practical Handbook of Software Construction*. Microsoft Press, 1993.

Great Writings in Software Engineering

Frederick P. Brooks. *The Mythical Man-Month: Essays on Software Engineering*. Addison-Wesley Longman, anniversary edition, 1995.

Erich Gamma, Richard Helm, Ralph Johnson, and John Vlissides. *Design Patterns: Elements of Reusable Object-Oriented Software*. Addison-Wesley, 1995.

Great Writings in the Theory of Computer Sciences

Michael R. Garey and David S Johnson. *Computers and Intractability: A Guide to the Theory of Intractability*. W. H. Freeman, 1979.

Great Writings in Writing Computer Science

Lyn Dupré. *BUGS in Writing: A Guide to Debugging Your Prose*. Addison Wesley Longman, Inc, 1998.

Donald E. Knuth. *The T_EXbook*. Addison-Wesley, 1986.

Leslie Lamport. *L^AT_EX: A Document Preparation System*. Addison-Wesley Publishing Company, 2nd edition, 1994.

W. Strunk Jr. and E. B. White. *The Elements of Style*. MacMillan Publishing Company, 1979.