

Computer Science and Electrical and Computer Engineering Resource Guide

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This guide provides selected engineering information resources with an emphasis on electrical and computer engineering. For specific book and periodical titles, check the [Suffolk University Library Catalog](#).

Periodical Indexes and Full-Text Databases

[IEEE Digital Library](#)

The IEEE Computer Society Digital Library provides online access to 22 society magazines and transactions from 1988 to present and over 1,200 selected conference proceedings.

[ACM Digital Library](#)

The Digital Library is an online resource containing all ACM journals, magazines, and conference proceedings from 1954 forward.

[Academic Search Premier](#)

Our best general research database, this online resource covers a wide range of academic areas including computer science and engineering, and provides indexing and abstracting for over 8,000 journals including more than 3,600 peer-reviewed publications. Full-text access is available for nearly 4,700 of the titles. Indexing and abstracting coverage begins generally from the mid-1980's and full-text coverage for many titles dating back to 1990. You may limit search results to full-text and/or peer-reviewed articles.

[SpringerLink](#)

Includes computer and information science journals and electronic and electrical engineering journals from Springer-Verlag, a scientific publisher. Please note that full-text access is available only to journals for which the Sawyer Library has a subscription. Unfortunately there is no way of restricting your search to subscribed journals.

[HighWire Press](#)

<http://www.highwire.org>

Stanford University's High Wire Press hosts over 880 scholarly journals in this searchable, multidisciplinary database. Includes some full-text articles in computer science journals. Citation searching capability for some of the articles. Please note that full-text access is available only to journals for which the Sawyer Library has a subscription. Unfortunately there is no way of restricting your search to subscribed journals.

[Wiley InterScience](#)

Consists of more than 350 scholarly journals with full-text back to 1997 published by Wiley. This multidisciplinary database includes journals in the areas of computer science, electrical and electronics engineering, and information technology. Please note that full-text access is available only to journals for which the Sawyer Library has a subscription. Unfortunately there is no way of restricting your search to subscribed journals.

[Blackwell Synergy](#)

Synergy is a searchable full-text database of journals from Blackwell Publishing. This database includes a half-dozen computer science journals but no electrical engineering titles. Citation searching capability for some articles. The majority of articles in this database are free full-text.

[Oxford Journals Online](#)

This database consists of more than 150 scholarly journals from the Oxford University Press, many with full-text back to 1998, covering many disciplines. There are only a few computer science, communications technology, and electrical engineering titles, but these include *Computer Journal* and the *IEICE Transactions*.

[MathSciNet](#)

Produced by the American Mathematical Society, MathSciNet is a comprehensive database of bibliographic information and reviews covering the world's mathematical literature since 1940. Links to original articles and other original documents are provided when available. MathSciNet includes linked reference lists from selected journals.

[xreferplus](#)

This database consists of a useful collection of online reference works. Search for definitions of computing and telecom terms and jargon in its [technology](#) dictionaries.

[Gale Virtual Reference Library](#)

This database of online reference works includes the encyclopedia [Computer Sciences](#) which covers the history of computer science, computer science concepts, and contributors to the field. In addition, "the impact of computers on society is explored, with examples in literature and film to illustrate and support trends."

[AccessScience](#)

Online encyclopedia produced by McGraw-Hill. Browse by topic or alphabetically or search by word or phrase. Includes data, tables, tools, study guides, bibliographies, a dictionary, biographies, and news articles.

[Oxford Reference Online Premium](#)

The *Dictionary of Computing* and *A Dictionary of the Internet* are both available online in the [computing](#) section of this database.

[Scirus](#)

<http://www.scirus.com/>

Elsevier Science publisher claims that its Scirus website provides the "most comprehensive science specific search engine on the Internet." Scirus searches web pages (e.g. university and society websites), preprints on The Computer Science Preprint Server and The Mathematics Preprint Server, and ScienceDirect journals. The web pages and preprints are freely available, as are full-text articles in a small number of ScienceDirect computer science and engineering journals to which the Sawyer Library subscribes.

Tools & Products Websites

[Martindale's Calculators On-Line Center: Engineering: Electrical & Computer](#)

<http://www.martindalecenter.com/Calculators4A.html>

Very extensive list of engineering tools--nicely organized by subject categories, with entries often briefly annotated.

[Electrical Engineering Circuits Archive - UWEE](#)

http://www.ee.washington.edu/circuit_archive/

Sponsored by the University of Washington Electrical Engineering Department, this site provides circuit designs to be used by engineering students. Included are: circuits, data sheets, models,

microprocessors, software, and resistor codes, among others.

[Global Electronic Components Datasheet Locator](http://www.datasheetlocator.com/)

<http://www.datasheetlocator.com/>

This website helps you locate "product datasheets from hundreds of electronic component manufacturers worldwide." Select a component manufacturer from the left frame, then click to link, or search by part number.

[eeProductCenter](http://www.eeproductcenter.com/)

<http://www.eeproductcenter.com/>

This website claims: "eeProductCenter, brought to you by the editors of EE Times and ChipCenter, is a comprehensive online resource for new product announcements and reviews of the latest integrated circuits and electronics components. eeProductCenter will draw on the experience of EE Times and ChipCenter editors to break new product information first, helping to speed the engineer's product selection process." Use the search engine or browse through product categories. Site features also include product reviews and industry news.

Technical Reports Websites

[DOE Information Bridge](http://www.osti.gov/bridge/index.jsp)

<http://www.osti.gov/bridge/index.jsp>

The Department of Energy has collaborated with the Government Printing Office to provide this searchable database of full-text research reports from the DOE. Topics include engineering, energy technologies, environmental sciences, materials science, and computer science.

[GrayLit Network](http://www.osti.gov/graylit/)

<http://www.osti.gov/graylit/>

Gray literature is defined as "foreign or domestic open source material that usually is available through specialized channels and may not enter normal channels or systems of publication, distribution, bibliographic control, or acquisition by booksellers or subscription agents." Search and retrieve full-text technical reports considered to be federal gray literature from the Department of Energy, Department of Defense, Environmental Protection Agency, and National Aeronautics and Space Administration.

[Virtual Technical Reports Center](http://www.lib.umd.edu/ENGIN/TechReports/Virtual-TechReports.html)

<http://www.lib.umd.edu/ENGIN/TechReports/Virtual-TechReports.html>

Sponsored by the University of Maryland Libraries, this website provides a very lengthy list of links to institutions that provide "either full-text reports, or searchable extended abstracts of their technical reports." Updated monthly.

[Technical Reports](http://www-sul.stanford.edu/collect/techrpt.html)

<http://www-sul.stanford.edu/collect/techrpt.html>

Karen Greig of the Stanford University Engineering Library has created this page which briefly describes technical reports and points to resources for full-text technical reports on the internet.

Clearinghouses on the Web

[NIST Information Technology Laboratory](http://www.itl.nist.gov/)

<http://www.itl.nist.gov/>

The Information Technology Laboratory at the National Institute of Standards and Technology "develops the tests and test methods that both the developers and the users of (information) technology need to objectively measure, compare and improve their systems." The website is a gateway to the publications, products, and news of the various ITL programs. Program areas include: information access, mathematics and computational science, security, software testing, network research, statistical engineering, convergent information systems, and pervasive computing.

[Intute Engineering Gateway](http://www.intute.ac.uk/sciences/engineering/)

<http://www.intute.ac.uk/sciences/engineering/>

The Intute Engineering Gateway describes itself as providing "free access to high quality resources on the Internet. Each resource has been evaluated and categorised by subject specialists based at UK universities." Among the topics included are: electrical, electronic and computer engineering, communications engineering, and computers and data processing.

[The Semiconductor Subway](http://www-mtl.mit.edu/semisubway/)

<http://www-mtl.mit.edu/semisubway/>

Housed at MIT's Microsystems Technology Laboratory, this site claims that it "provides links to all manner of semiconductor and microsystems related information, including fabrication facilities, research activities, standards work, etc."

[eg3: best of the web for embedded systems](http://www.eg3.com/)

<http://www.eg3.com/>

eg 3 calls itself "your portal to the best of the web" for embedded systems, dsp, real-time/rtos, board-level computing, soc and more. If all of those acronyms and phrases mean something to you, then check out this website.

[University at Albany Libraries: Computer Science](http://library.albany.edu/subject/csci.htm)

<http://library.albany.edu/subject/csci.htm>

A nicely organized list of links, with brief annotations, to internet sites in computer science. Topics include Academic Departments & Institutes; Algorithm Collections; Associations, Organizations & Societies; Bibliographic Databases & Indexes; Bibliographies/Pre-Prints/Technical Reports; Biography; Book Reviews; Calculators; Compilers & Interpreters; Dictionaries & Encyclopedias; Electronic Books & Conference Proceedings; Microsoft

Development; and Programming Languages, Courses & Tutorials. Some resources, such as electronic journals, are only available to University at Albany students.

[BUBL's Computer Science Research](#)

<http://bubl.ac.uk/link/c/computerscienceresearch.htm>

Based in the United Kingdom, BUBL (established in 1990 as Bulletin Board for Libraries), is an annotated subject directory of academic and research topics. "Academic" and "research" are the operative words here: few of these sites provide practical information to the beginning computer science student, but those interested in theories, concepts, and the sources of technical literature in computer science will find a good starting point.

[The Collection of Computer Science Bibliographies](#)

<http://iinwww.ira.uka.de/bibliography/index.html>

Hosted by the University of Karlsruhe, Germany, and maintained by Alf-Christian Achilles, this collection of searchable bibliographies covers research topics in computer science, such as artificial intelligence, distributed systems and networking, object-oriented programming, and neural networks.

[ee compendium](#)

<http://ee.cleversoul.com/>

Calling itself "The Home of Electronic Engineering and Embedded Systems Programming," this website aims to provide information for "professional electronics engineers, students, and hobbyists." Sections cover microcontrollers, projects & tutorials, software, and hardware, with links to related magazines and other portals.

Miscellaneous Websites

[BABEL: A Glossary of Computer Oriented Abbreviations and Acronyms](#)

http://www.geocities.com/ikind_babel/babel/babel.html

This very useful glossary of computer abbreviations is the personal creation of Irving Kind, who was motivated by the frustration of reading computer publications which failed to define acronyms and abbreviations. The website is now maintained by Irving and Richard Kind.

[FOLDOC: Free On-Line Dictionary of Computing](#)

<http://foldoc.org>

Edited by Denis Howe and supported by the Imperial College Department of Computing, "FOLDOC is a searchable dictionary of acronyms, jargon, programming languages, tools, architecture, operating systems, networking, theory, conventions, standards, mathematics, telecoms, electronics, institutions, companies, projects, products, history, in fact anything to do with computing."

[TechWeb: TechEncyclopedia](#)

<http://www.techweb.com/encyclopedia/>

Need to do a quick look-up of a term in the electronics field? Try this online resource which covers "more than 20,000 IT terms." Brief explanations of terms are accompanied by photographic images and illustrations when appropriate. Red tabs allow you to also explore other areas of the TechWeb site.

[Teaching Objects with Elementary Patterns](#)

<http://csis.pace.edu/~bergin/patterns/TeachingObjectsElemPat.html>

Professor Joseph Bergin of Pace University's Computer Science Department has created a set of webpages elaborating on the importance and use of patterns in teaching and learning object-oriented computer programming. Although these pages are geared to educators as the primary audience, motivated novice students can get an introduction to the patterns and building blocks of object-oriented programming. A good example is the [Patterns for Selection](#) page, which provides examples for selection, strategy, auxiliary, and stylistic patterns.

[Stanford CS Education Library](#)

<http://cslibrary.stanford.edu/>

The Stanford "online library collects education CS material from Stanford courses and distributes them for free." The collection covers Pointers and Memory, Linked Lists and Binary Trees, the C and Perl Languages, Unix, and a Java version of Tetris.

[The C++ Programming Language](#)

<http://www.research.att.com/~bs/C++.html>

An interesting website to browse when looking for information about the C++ language, since the site is authored by Bjarne Stroustrup, the designer and original implementor of C++.

[Dennis M. Ritchie](#)

<http://www.cs.bell-labs.com/who/dmr/>

These webpages, hosted by Bell Labs/Lucent Technologies, are written by Dennis M. Ritchie, head of the System Software Research department at the Computing Sciences Research Center of Bell Labs/Lucent Technologies. Here he recounts his role, along with Ken Thompson, in developing the Unix operating system, and his creation of the C language: "Early in the development of Unix, I added data types and new syntax to Thompson's B language, thus producing the new language C. C was the foundation for the portability of Unix, but it has become widely used in other contexts as well; much application and system development for computers of all sizes, from hand-held to supercomputer, uses it. There are unified U.S. and international standards for the language, and it is the basis for Stroustrup's work on its descendant C++." In addition to biographical information the site provides links to historical documents regarding Unix and C.

[Quotations for Learning and Programming](#)

<http://www-2.cs.cmu.edu/~pattis/quotations.html>

Frustrated by a difficult assignment? Have a look at this lengthy list of quotations that are

"relevant to teaching and learning programming," compiled by Richard Pattis, Senior Lecturer in the Computer Science Department of Carnegie Mellon University.

[PowerDesigner's InfoWeb](http://www.powerdesigners.com/InfoWeb/index.shtml)

<http://www.powerdesigners.com/InfoWeb/index.shtml>

Providing a "free information archive for power electronics designers," this website includes free downloads, technical articles, a components database, and even access to online textbooks.

Selected Print Resources

Handbooks

[Newnes Engineering and Physical Science Pocket Book](#)

REF TA151 .B47 1993

This small guide provides quick access to physical science formulae, definitions, and basic engineering information.

[The Engineering Handbook](#)

REF TA151 .E424 2005

A single volume "ready reference" for the practicing engineer in industry, government, and academia. Divided into 30 major sections that cover all areas of engineering.

[Electrical Engineer's Reference Book](#), 16th edition

REF TK145 .E36 2003

This comprehensive single volume reference work aims "to reflect the state of the art in electrical science and technology." Subject areas include: general principles, materials and processes, control, power electronics and drives, environment, power generation, transmission and distribution, power systems, and sectors of electricity use.

[Standard Handbook for Electrical Engineers](#), 14th edition

REF TK151 .S83 2000

The editors of this hefty one-volume reference book state that their aim is "to contain in a single volume all pertinent data within its scope" which "includes the generation, transmission, distribution, control, conservation, and application of electrical power." The last section of the book covers standards in electrotechnology, telecommunications, and information technology.

[Network Security: the Complete Reference](#)

REF TK510.59 .B72 2004

Information about planning, building, and managing a secure network architecture. Discussion of security legislation that affects network systems.

[Electronic Connector Handbook](#)

REF TK3521 .M76 1998

Provides background on the material and design requirements related to the use of electronic connectors.

[The Handbook of Formulas and Tables for Signal Processing](#)

REF TK5102.9 .P677 1999

This book attempts to include "in a single volume the most important and useful tables and formulas that are used by engineers and students involved in signal processing."

[Reference Data for Engineers: Radio, Electronics, Computer, and Communications](#), 9th edition

REF TK6552 .F4 2002

One-volume reference work containing comprehensive electrical, electronics, and communications data.

[The Computer Engineering Handbook](#)

REF TK7885 .C645 2002

This handbook from the CRC Press contains a dozen sections covering fabrication and technology, computer architecture and computer system organization, design techniques, penetration of computer systems into the consumer's market, and reliability and testability of computer systems.

Dictionaries and Encyclopedias

[IEEE 100: the Authoritative Dictionary of IEEE Terms](#), 7th edition

REF TK9 .I28 2000

Includes thousands of terms and definitions standardized by IEEE.

[ASTM Dictionary of Engineering, Science, & Technology](#)

REF TA402 .A86 2000

Sponsored by the ASTM Committee on Terminology, the stated purpose of the dictionary is "to enable its users to reference terminology, compare definitions across disciplines, and take advantage of existing terms and definitions rather than reinvent terms and develop definitions unnecessarily." Each definition is annotated with the terminology standard and the ASTM committee having jurisdiction over the subject area.

[The Computer Desktop Encyclopedia](#)

REF QA76.15 .F732 2001

Written by Alan Freedman, this is a comprehensive and well-written computer terminology reference source containing thousands of definitions, explanations, and illustrations.

[The Internet Encyclopedia](#)

REF TK5105.875 .I57 I5466 2004

Coverage of internet topics in a three-volume encyclopedia. Articles are peer-reviewed and signed by the authors.

[McGraw-Hill Circuit Encyclopedia and Troubleshooting Guide](#)

REF TK7867 .L463

Three-volume set that provides information identifying over 700 circuits, how they operate, and where they fit into electronic equipment and systems.