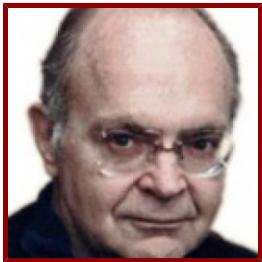


Stanford



Donald Knuth

Fletcher Jones Professor of Computer Science, Emeritus

Curriculum Vitae available Online

Bio

BIO

Donald Ervin Knuth is an American computer scientist, mathematician, and Professor Emeritus at Stanford University.

He is the author of the multi-volume work *The Art of Computer Programming* and has been called the "father" of the analysis of algorithms. He contributed to the development of the rigorous analysis of the computational complexity of algorithms and systematized formal mathematical techniques for it. In the process he also popularized the asymptotic notation. In addition to fundamental contributions in several branches of theoretical computer science, Knuth is the creator of the TeX computer typesetting system, the related METAFONT font definition language and rendering system, and the Computer Modern family of typefaces.

As a writer and scholar,[4] Knuth created the WEB and CWEB computer programming systems designed to encourage and facilitate literate programming, and designed the MIX/MMIX instruction set architectures. As a member of the academic and scientific community, Knuth is strongly opposed to the policy of granting software patents. He has expressed his disagreement directly to the patent offices of the United States and Europe. (via Wikipedia)

ACADEMIC APPOINTMENTS

- Professor Emeritus, Computer Science

HONORS AND AWARDS

- Grace Murray Hopper Award, ACM (1971)
- Member, American Academy of Arts and Sciences (1973)
- Turing Award, ACM (1974)
- Lester R Ford Award, Mathematical Association of America (1975)
- Member, National Academy of Sciences (1975)
- Distinguished Alumni Award, California Institute of Technology (1978)
- National Medal of Science, President Carter (1979)
- Distinguished Fellow, British Computer Society (1980)
- Wallace McDowell Award, IEEE Computer Society (1980)
- Member, National Academy of Engineering (1981)
- Priestley Award, Dickinson College (1981)
- Honorary Member, IEEE (1982)
- Golden Plate Award, American Academy of Achievement (1985)

- SIGCSE Award (Computer Science Education), ACM (1986)
- Software Systems Award, ACM (1986)
- Steele Prize for Exposition, American Mathematical Society (1986)
- New York Academy of Sciences Award, New York Academy of Sciences (1987)
- Franklin Medal, Franklin Institute (1988)
- Gold Medal Award, Case Alumni Association (1990)
- Foreign Associate, Académie des Sciences, Paris (1992)
- Foreign Member, Norwegian Academy of Sciences (1993)
- Lester R Ford Award, Mathematical Association of America (1993)
- Adelsköld Medal, Royal Swedish Academy of Sciences (1994)
- Best New Book: Computer Science, Association of American Publishers (1994)
- Fellow, ACM (1994)
- Harvey Prize, Technion (1995)
- John von Neumann Medal, IEEE (1995)
- Kyoto Prize, Inamori Foundation (1996)
- Fellow, Computer History Museum (1998)
- Foreign Member, Royal Society of London (2003)
- Honorary Fellow, Magdalen College, Oxford (2005)
- Foreign Member, Russian Academy of Sciences (2008)
- Fellow, SIAM (2009)
- Frontiers of Knowledge Award, BBVA Foundation (2010)
- Katayanagi Prize, Carnegie-Mellon University (2010)
- ABACUS Award, Upsilon Pi Epsilon (2011)
- Faraday Medal, IET (2011)
- Hero Award, Stanford University School of Engineering (2011)
- Member, American Philosophical Society (2012)
- Platinum Gold Medal for Computer Science Education, ETH Zürich (2012)
- Fellow, American Mathematical Society (2013)
- Peter Karow Award, ATypI (2013)
- Honorary Member, London Mathematical Society (2015)
- Trotter Prize, Texas A&M University (2018)

PROFESSIONAL EDUCATION

- PhD, California Institute of Technology , Mathematics (1963)

PATENTS

- Donald Knuth, Stephen N Schiller. "United States Patent 5,305,118 Methods of controlling dot size in digital half toning with multi-cell threshold arrays", Adobe Systems, Apr 19, 1994
- Donald Knuth, LeRoy R Guck, Lawrence G Hanson. "United States Patent 3,626,167 Scaling and number base converting method and apparatus", Burroughs Corporation, Dec 7, 1971
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LINKS

- <http://www-cs-faculty.stanford.edu/~knuth/>: <http://www-cs-faculty.stanford.edu/~knuth/>

Publications

PUBLICATIONS

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Knuth, D. E.
CSLI Publications.2011

- **Combinatorial algorithms, part 1** *The art of computer programming*

Knuth, D. E.
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- **MMIX MIXWARE: A RISC COMPUTER FOR THE THIRD MILLENNIUM**

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- **Digital Typography**

Knuth, D. E.
CSLI Publications.1999

- **Sorting and searching** *The art of computer programming*

Knuth, D. E.
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- **Fundamental Algorithms** *The art of computer programming*

Knuth, D. E.
Addison-Wesley.1997; 1

- **Seminumerical algorithms** *The art of computer programming*

Knuth, D. E.
Addison-Wesley.1997; 2

- **Concrete Mathematics: A foundation for computer science**

Graham, R. L., Knuth, D. E., Patashnik, O.
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- **The Stanford GraphBase: A platform for combinatorial computing**

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 - **BREAKING PARAGRAPHS INTO LINES** *SOFTWARE-PRACTICE & EXPERIENCE*
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 - **MATHEMATICS AND COMPUTER SCIENCE - COPING WITH FINITENESS** *SCIENCE*
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 - **COMPUTER PROGRAMMING AS AN ART** *COMMUNICATIONS OF THE ACM*
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 - **Let's Not Dumb Down the History of Computer Science** *COMMUNICATIONS OF THE ACM*
Knuth, D. E., Shustek, L.
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 - **Dispersed Rooks on a Chessboard** *AMERICAN MATHEMATICAL MONTHLY*
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 - **A Property of Conjugate Partitions** *Proposal* *AMERICAN MATHEMATICAL MONTHLY*
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2020; 127 (2): 186
 - **Log-Concavity of a Binomial Sum** *Proposal* *AMERICAN MATHEMATICAL MONTHLY*
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● **Balanced Tilings of a Rectangle with Three Rows** *AMERICAN MATHEMATICAL MONTHLY*

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 - **A NOTE ON STRATEGY ELIMINATION IN BIMATRIX GAMES** *OPERATIONS RESEARCH LETTERS*
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 - **DIGITAL HALFTONES BY DOT DIFFUSION** *ACM TRANSACTIONS ON GRAPHICS*
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 - **COMPUTER-SCIENCE CONSIDERATIONS** *BYTE*
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 - **TeX: The Program** *Computers & Typesetting*
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 - **DECIPHERING A LINEAR CONGRUENTIAL ENCRYPTION** *IEEE TRANSACTIONS ON INFORMATION THEORY*
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- **ALGORITHMIC THINKING AND MATHEMATICAL THINKING** *AMERICAN MATHEMATICAL MONTHLY*
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- **LESSONS LEARNED FROM METAFONT + USE OF COMPUTERS IN TYPE DESIGN** *VISUAL LANGUAGE*
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- **DYNAMIC HUFFMAN CODING** *JOURNAL OF ALGORITHMS*
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- **AN ANALYSIS OF OPTIMUM CACHING** *JOURNAL OF ALGORITHMS*
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