ROBERT P. COOK, Adjunct Faculty, Game Programming, Chattanooga State

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bobcook47@hotmail.com

CERTIFICATIONS: Google Certified Educator Level 1

EDUCATION: BS('69), MS('71), Ph.D.('78) - Vanderbilt University, School of Engineering
INTERESTS: Game technology, E-learning, software reuse, NASA technology, LEGO robotics, Google Apps for Education

EMPLOYMENT HISTORY:

Current
2014 – (retired) part-time adjunct faculty, Chattanooga State
NASA-KSC
2005 (Summer) Summer Researcher, Port launch system to create middle-school edu-applications
2004 (Summer) Summer Researcher, Implemented real-time, multi-platform POSIX Threads
Sun Microsystems Corporation
2000 (Summer) Summer Researcher, Next-Generation Internet
Microsoft Corporation
1999 (Summer) Summer Researcher, Component Software
1996 (Summer) Summer Researcher, Mobile Agents
1993 - 1994 Architect, Advanced Consumer Technology
Designing component software for PocketPC consumer devices.
1992 - 1993 Architect, Excel Business Unit
Participated in advanced product planning, implemented a new, prototype spreadsheet architecture, designed and implemented the search engine for the Find File DLL shared by Excel, Powerpoint, Word, and Project.
1991 - 1992 Architect, Applications Architecture Group.
Participated in design and implementation of several application frameworks.
Evergreen Associates
1970 -1976 Corporate officer, consulted for Xerox, Rank Xerox, Harris Corporation.
Previous Academic Positions
2012 – 2014 Yamacraw Professor, Dept. of Computer Sciences, Georgia Southern University
2003 – 2005, 2010 Acting Chair, Dept. of Computer Sciences, Georgia Southern University
2009 – Acting Associate Dean, College of Information Technology, Georgia Southern University
2001 – 2011 Yamacraw Professor, Dept. of Computer Sciences, Georgia Southern University
1994 - 2001 Chair & Professor, Dept. of Computer and Information Science, University of Mississippi, School of Engineering
1990 - 1991 Associate Chair, University of Virginia
1988 - 1990 Acting Chair, University of Virginia, School of Engineering and Applied Science
1983 - 1991 Associate Professor, University of Virginia
1978 - 1983 Assistant Professor, University of Wisconsin
1976 - 1978 Instructor and graduate student, Vanderbilt University
1972 - 1976 Instructor, University of Florida
1971 Instructor, Vanderbilt University

EDUCATIONAL LEADERSHIP:

University of Florida – I was a founding member of the CIS department. I designed and taught a variety of undergraduate courses and was also responsible for equipping a number of the labs.
Vanderbilt University – I taught a variety of upper level undergraduate courses and also

supervised M.S. students during a period when many of the faculty had resigned.
University of Wisconsin – I helped to build the systems area. I taught a number of undergraduate and graduate operating system, distributed system, and networking courses. I contributed the theme to the successful NSF Infrastructure proposal, worked with Randy Katz on his first VLSI project and with Dave Dewitt on the thesis committees of his Ph.D. students.
University of Virginia – I was a founding member of the CS department. I was the acting chair for a number of years during which the department grew significantly. I supervised the renovation of the department's space. Andrew Grimshaw, Dana Richards, James French, Randy Pausch, Sang Son, Bill Wulf and Anita Jones joined the department during my tenure.
University of Mississippi – The department doubled both undergraduate and graduate enrollment, TOEFL/GRE scores of entering graduate students improved significantly, $1M endowment from John Adler (retired chair of Adaptec), significant improvements to laboratory space and equipment, helped to start an evening M.S. program in Jackson MS, Weir Hall renovation funded by the Galtney endowment, helped to improve the undergraduate and graduate curricula, led the department through a successful CSAB accreditation visit.
Georgia Southern University – Planning Committee for College of IT and College of CEIT, led the program through a successful ABET accreditation visit, co-founded Maritime Logistics Center with faculty from Georgia Tech, attended CHCP national meetings on behalf of port, initiated GSU's NASA Space Grant membership and attended national meetings as coordinator, prepared and taught 5 of 12 online courses in the MSCS, served as Acting Chair twice as well as Associate Dean, initiated many outreach activities to K-12 including the annual Computer Stars competition.

LEADERSHIP:

2005-2014 Reviewer for the Swedish Strategic Research Foundation
2010-2014 Academic Advisory Council for the Georgia Game Developers Association
2005-2014 Elected, Senate Parliamentarian
2008-2009 IEEE Software Design Descriptions Working Group, Member
2006-2010 Honors Program Advisory Council
2004-2010 Coordinator, Georgia Southern NASA Space Grant Affiliate
2004-2008 Review Panelist, Fulbright Scholars Information Technology Committee
2007 Program Committee, ACM Principles of Programming in Java
2006 Program Committee – Intl. Workshop on Multithreading and Verification
2005 Chair, Regents Advisory Committee on the Computing Disciplines
2005 Semi-Finalist, Christopher Columbus Foundation Homeland Security Award
2005 Program Committee – ACM SE Conference 2006
2005 Chair of IEEE Savannah Section
2004 Chair of IEEE Savannah Section
2004 Faculty Senate Executive Committee
2004 Judge, Finals of IEEE Computer Society Intl. Design Competition, Washington, D.C.
2003 Co-founder Maritime Innovation Center Savannah GA
2003 Elected to Faculty Senate and Faculty Senate Executive Committee
2003 Chief Judge, Finals of IEEE Computer Society Intl. Design Competition,Washington, D.C.
2002 Judge, Finals of IEEE Computer Society International Design Competition, Washington,D.C.
2001 Judge, Finals of IEEE Computer Society International Design Competition, Washington,D.C.
2001 Selected by CRA to co-host (with MVSU) a Graduate-School-Opportunities-for-Women Workshop
2000 Technical Advisory Board, Palm Corporation
2000 Invited participant, Education Roundtable Session, PalmSource 2000, Santa Clara, CA.
2000 Appointed by Faculty Senate to University Athletic Committee
2000 Organized and led CIO Summit for Computer Technology Showcase
1999 Editorial Board, AACE WebNet Journal--Internet Technologies, Applications & Issues
1999 Invited talk, Univ. of Wisconsin, XDB Database System
1998 Invited panelist, Microsoft Windows CE Developer Conference

1997 University Assessment Committee
1996 Faculty Advisor, student chapter of the ACM, Univ. of Mississippi
1995 - 1996 Elected to the Faculty Senate, Univ. of Mississippi
1995 Designed a new graduate program in Computer Engineering/Telecommunications to be offered in Jackson MS and drove to Jackson for 18 months to teach classes.
1995 Invited member, NSF Graduate Fellowship Award Committee, ORAU.
1994 Editorial Board, Software--Concepts and Tools, Springer-Verlag.
1994 Invited member, NSF Graduate Fellowship Award Committee, ORAU.
1994 Program Committee, Conference on Programming Languages and System Architectures to honor Niklaus Wirth's 60th birthday, Zurich, Switzerland.
1994 Invited Panelist, Eleventh IEEE Workshop on Real-Time Software and Operating Systems, Seattle, WA.
1993 Invited member, NSF Graduate Fellowship Award Committee, National Academy of Science.
1992 Invited member, NSF Graduate Fellowship Award Committee, National Academy of Science.
1992 Program Committee, IEEE Conference on Computer-Aided Control System Design, Napa, CA.
1987 – 1991 President's Committee on Computing and Communications Policy, University of Virginia.
1990 – 1991 Elected to Faculty Forum for Scientific Research, University of Virginia.
1991 Invited Panelist " Operating Systems: Interfaces/Standards", Eighth IEEE Workshop on Real-Time Software and Operating Systems, Atlanta, GA.
1991 Program Committee, 8th IEEE Workshop on Real-Time Software and Operating Systems, Atlanta, GA.
1990 Site Visit Member for NSF CISE grant reviews.
1990 Program Committee, Third Annual Workshop: Methods and Tools for Reuse, Syracuse, NY.
1990 Member, U.S. TAG to ISO SC22/WG13, Modula-2 Standard.
1990 General Chairman, Seventh IEEE Workshop on Real-Time Software and Operating Systems, Charlottesville, VA.
1989 Invited participant at the AIA/SEI Workshop on Research Advances Required for Real-Time Software Systems in the '90s, Pittsburgh, PA.
1989 Tools Fair Presentation of StarLite at the 11th International Conference on Software Engineering, Pittsburgh, PA.
1989 Session Chairman "Scheduling", Sixth IEEE Workshop on Real-Time Software and Operating Systems, Pittsburgh, PA.
1989 Invited participant at the IEEE Indiatlantic Workshop On Tools and Environments for Reuse.
1988 Invited participant and group leader at the IEEE Bass Harbor/Minnowbrook Workshop on Tools and Environments for Reuse.
1988 Session Chairman "Real-Time Software Development", Fifth IEEE-USENIX Workshop on Real-Time Software and Operating Systems, Washington, D.C.
1988 Invited Panelist " Building Real-Time Kernels", Fifth IEEE-USENIX Workshop on Real-Time Software and Operating Systems, Washington, D.C.
1988 Invited participant at the ONR Real-Time Systems Initiative Workshop at IBM Manassas, VA.
1987 Elected Secretary to the Faculty, School of Engineering and Applied Science
1987 Panel Member for NSF CISE grant reviews.
1987 Session Chairman "Language Support for Real-Time Systems", Fourth Workshop on Real-Time Operating Systems, Cambridge, MA.
1987 Session Chairman "Object-Based Systems", Sixth Symposium on Reliability in Distributed Software and Database Systems, Williamsburg, VA.
1986 Invited Participant, Real-Time Systems Issues Workshop, University of Texas, Austin, TX.
1986 Program Committee, Sixth Symposium on Reliability in Distributed Software and Database Systems.

1986 Editor, IEEE Software Special Issue on Modula-2.
1985 Site Visit Member for NSF CER grant reviews.
1985 Invited panelist for "Research Directions in the Development of Distributed Software", COMPSAC 85, Chicago, IL.
1985 Instructor, 15th Annual Institute in Computer Science, Operating Systems, Santa Cruz, CA.
1984 Site Visit Member for NSF CER grant reviews.
1984 Instructor, 14th Annual Institute in Computer Science, Operating Systems, Santa Cruz, CA.
1983 Panel Member for NSF CER grant reviews.
1983 Instructor, 13th Annual Institute in Computer Science, Operating Systems, Santa Cruz, CA.
1983 Program Committee, Fourth International Conference on Distributed Computing Systems.
1980 Accepted to participate in the NATO Advanced Study Institute on Multiple Processor Systems in Maratea, Italy.
1975 Accepted to participate in the NATO International Summer School on Language Hierarchies and Interfaces in Marktobersdorf, Germany.

BOOKS (sold in U.S., Canada, Brazil, Britain, France, Spain, Germany, Italy, India, Japan, Mexico, Australia):

LEGO Imagination, 400 Classroom Activities, Amazon Kindle e-book, (2015).
Introduction to Programming with JavaScript, P5 and Processing, Amazon Kindle e-book, (2015).
Introduction to C/C++ Programming with SFML for fun, Amazon Kindle e-book, (2015).
Introduction to Programming with C#, XNA and MonoGame, Amazon Kindle e-book, (2014).
Introduction to Programming with Lua and the Corona Game Lab, Amazon Kindle e-book, (2014).
Object Oriented Programming Patterns, Amazon Kindle e-book, (2013).
Introduction to Parallel Programming, Amazon Kindle e-book, (2011).
Introduction to Programming with Java and Eclipse, Amazon Kindle e-book, (2010).
Advanced Java Programming with Data Structures, Amazon Kindle e-book, (2010.
Introduction to C# Programming with Mono, Amazon Kindle e-book, (2009).
Introduction to C Programming with a little OpenGL Graphics for fun, Amazon Kindle e-book, (2008).
Operating Systems Concepts with Linux and POSIX Threads, Amazon Kindle e-book, (2008).

BOOK CHAPTERS:

(With Y. Li) "A New Algorithm and Asymptotical Properties for the Deadlock Detection Problem for Computer Systems with Reusable Resource Types," **Advances and Innovations in Systems, Computing Sciences and Software Engineering**, Springer (2007) 509-512.
"Modula-2," in **Encyclopedia of Computer Science 3rd Edition**, edited by A. Ralston and E.D. Reilly, Van Nostrand Reinhold, (1993) 895-898.
"The StarLite Operating System," in **Operating Systems for Mission-Critical Computing**, edited by K. Gordon, P. Hwang, A. Agrawala, IOS Press, (1992) 2-10.
(with S. Son, Y Lin), "Concurrency Control in Real-Time Database Systems," in **Foundations of Real- Time Computing (Scheduling and Resource Management)**, edited by A.M. van Tilborg and G.M. Koob, Kluwer Academic Publishers, (1991) 185-202.
(with L. Hsu, S. Son), "Real-Time, Priority-Ordered, Deadlock Avoidance Algorithms," in **Foundations of Real-Time Computing (Scheduling and Resource Management)**, edited by A.M. van Tilborg and G.M. Koob, Kluwer Academic Pub., (1991) 307-324.
(with L. Hsu), "StarLite: A Software Education Laboratory," in Software Engineering Education, **Springer-Verlag Lecture Notes in Computer Science 423**, edited by Lionel E. Deimel (April 1990) 95-109.
"StarMod--A Language for Distributed Programming," in **Concurrent Programming**, Addison-Wesley, edited by N. Gehani and A.D. McGettrick, (1988) 93-111.
"StarMod--A Language for Distributed Programming," in **Distributed Computing: Concepts and**

Implementations, IEEE Press, edited by P.L. McEntire, J.G. O'Reilly, R.E. Larson, (1984) 353-363.

JOURNALS:

(with R. Joshi) “An Analysis of Rigid Alignment Computer Vision Algorithms,” **International Journal of Computer Science and Electrical Engineering 1**, 1(2012) 48-54.
"An Introduction to the NASA Shuttle Ground Operations Simulator--SGOS," **Software -- Practice and Experience 38**, 6(May 2008) 575-587.
“Thread Verification -- An Experience Report," **Electronic Notes in Theoretical Computer Science 174**, 9(June 2007), 49-61, http://dx.doi.org/10.1016/j.entcs.2007.04.006.
“Smart Highways,” **Cargo Security International**, volume 3, 4(August 2005), 50-52.
"Heuristic Compression of an English Word List," **Software -- Practice and Experience 35**, 6(May 2005) 577-581.
(with A. Greca, J. Harris), "Enhancing Learning in a Data Communications and Networking Course with Laboratory Experiments," **The Journal of Computing Sciences in Colleges 19**, 3(Jan. 2004) 79-88.
(With Y. Zhou, D. Wilkins), "Neural Network Control for A Fire-Fighting Robot," **Software -- Concepts and Tools 19**, 3 (1999) 146-152.
"An On-Line C++ Course: Implementation and Experience," **Software -- Concepts and Tools 19**, 2 (1998) 61-69.
"The Type Extensible Architecture of A Simple Database System," **Software -- Concepts and Tools 17**, 4(1996) 141-147.
(With K. Pillaipakkamnatt), "An Introduction to Opaque Types," **Software -- Concepts and Tools 17**, 1(1996) 1-5.
(With R. McDaniel), “The StarLite Algorithm Animator,” **Software -- Concepts and Tools 16**, 1(1995) 1- 11.
"An Experimental Analysis of the Lilith Instruction Set," **IEEE Transactions on Computers 38**, 1(Jan. 1989), 156-158.
"Modula-2 Experiments Will Help Future Language Designs," **IEEE Software 3**, 6(Nov. 1986) 4-6.
(with T.J. LeBlanc), "High-Level Broadcast Communication for Local-Area Networks," **IEEE Software 2**, 3(May 1985) 40-48.
(with T.J. LeBlanc and R.H. Gerber), "The StarMod Distributed Programming Kernel," **Software: Practice and Experience 14**, 12(Dec. 1984) 1123-1139.
(with T.J. LeBlanc), "Broadcast Communication in StarMod," Fourth International Conference on Distributed Computing Systems, (May 1984) 319-325. A summary appears in **Computer Networks and ISDN Systems 9**, 2(Feb. 1985) 150.
(with T.J. LeBlanc), "A Symbol Table Abstraction to Implement Languages with Explicit Scope Control," **IEEE Transactions on Software Engineering 9**, 1(Jan. 1983) 8-12.
(with T.J. LeBlanc), "Distributed Programming Languages: Design and Implementation," **Computer Communications 5**, 5(Oct. 1982) 239-244.
(with I. Lee), "A Contextual Analysis of Pascal Programs," **Software--Practice and Experience 12**, (1982), 195-203.
"Abstractions for Distributed Programming," **Journal of Computer Languages 6**, (1981), 131-138.
"*MOD--A Language for Distributed Programming," **IEEE Transactions on Software Engineering 6**, 6(Nov. 1980), 563-571.

PAPERS:

“An OpenMP Library for Java,” IEEE Southeastcon 2013.
(with D. Ratcliff, L. Li) “Measuring the Impact of Time Scale Choice on Spatiotemporal Interpolation using Parallel Computing,” Proc. of the American Mathematics Society (AMS) 2011 Fall Central Section Meeting (pp. 98). AMS.

(with Y. Li) "A New Algorithm and Asymptotical Properties for the Deadlock Detection Problem for Computer Systems with Reusable Resource Types," IEEE International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering, (Dec. 2006).

"Thread Verification -- An Experience Report," International Workshop on Multithreading in Hardware and Software, Seattle WA, (Aug. 2006).

"Mostly C, Challenges in LEGO RCX Code Generation," 44th ACM Southeast Conference, Melbourne FL, (March 2006).

(with E.J. Schafer) "Real-time POSIX Threads for Linux," NASA Research and Technology 2004 Annual Report, #211535, (2004) 16-17.

“Empowering Space Grant Universities Through Open Source Development,” NASA Capability Roadmap Public Outreach Workshop, Washington DC, (Nov. 2004).

(with I. Lee, R. Alur et al) "Advanced Tool Integration for Embedded Systems Assurance," DoD University Research Initiative Workshop in Critical Infrastructure Protection and High-Confidence Adaptable Software (Aug. 2004).

(with A. Greca and J. Harris) "Enhancing Learning in a Data Communication and Networking Course With Laboratory Experiments," 17th Southeastern Consortium for Computing Sciences, Dunwoody GA (Nov. 2003).

"OLAP Support in an Object-Relational Database System," International Conference on Information and Knowledge Engineering, Las Vegas, NV, (June 2003) 560-565.

“Learning in the Palm of Your Hand,” World Conference on the WWW and Internet, Orlando, FL, (Oct. 2001).

"The National Classroom Project--an experience report," Frontiers in Education Conference, Kansas City KS, (Oct. 2000).

"An Introduction to Phoenix," ACM Southeast Regional Conference, Birmingham AL, (1999).

"The Mobile Classroom Project," Frontiers in Education Conference, Tempe AZ, (1998) 205.

"A Web-Based C++ Course Project," Frontiers in Education Conference, Tempe AZ, (1998) 1272-1273.

"The Mobile Classroom Project," Frontiers in Education Conference, Pittsburgh PA, v2(1997) 696.

"Obtuse, a Scripting Language for Migratory Applications," USENIX Conference on Object-Oriented Technologies and Systems, Portland Oregon, 6(1997) 67-80.

(with S.H. Son and H. Oh), "New Paradigms for Real-Time Database Systems," 8th IEEE Workshop on Real-Time Software and Operating Systems, (May 1991) 103-108.

(with L. Hsu, S. Son), "Real-Time, Priority-Ordered, Deadlock Avoidance Algorithms," Third ONR Workshop on Foundations of Real-Time Computing, (Oct. 1990).

(with S. Son, Y Lin), "Concurrency Control in Real-Time Database Systems," Third ONR Workshop on Foundations of Real-Time Computing, (Oct. 1990).

(with H. Oh), "The StarLite Project," Frontiers 90 Conference on Massively Parallel Computation, (Oct. 1990) 494-498.

(with S.H. Son), "StarLite: An Environment for Prototyping and Integrated Design of Distributed Real-Time Software," Second International Conference on Computer Integrated Manufacturing, (May 1990) 507-515.

(with L. Hsu), "StarLite: A Software Education Laboratory," Fourth SEI Conference on Software Engineering Education, (April 1990) 95-109.

(with S.H. Son), "The StarLite Project," ONR Second Annual Workshop on Foundations of Real-Time Computing, (Oct. 1989) 136-140.

"The StarLite Operating System," Workshop on Operating Systems for Mission-Critical Computing, (Sept. 1989) J1-J7.

(with S.H. Son), "Scheduling and Consistency in Real-Time Database Systems,"Sixth IEEE Workshop on Real-Time Software and Operating Systems, (May 1989) 42-45.

(with S.H. Son and J. Ratner), "Communication Paradigms for Message-Based Multicomputer Systems," Fourth ACM Conference on Hypercube Concurrent Computers and Applications, (March 1989).

"StarLite, A Network-Software, Prototyping Environment," Symposium on the Simulation of Computer Networks, (Aug. 1987) 178-184.

(with S. H. Son), "The StarLite Project", IEEE Fourth Workshop on Real-Time Operating

Systems, Cambridge, Massachusetts, (July 1987), 139-141.
"StarLite, A Visual Simulation Package for Software Prototyping," Second Symposium on Practical Software Environments, (Dec. 1986), 102-110.
"An Empirical Analysis of the Lilith Instruction Set," Workshop on Future Directions in Architecture and Software, (May 1986), 21-28.
(with T.J. LeBlanc), "An Analysis of Language Models for High-Performance Communication in Local- Area Networks," SIGPLAN 83 Symposium on Programming Language Issues in Software Systems, (June 1983) 65-72.
(with I. Lee), "DYMOS--A Dynamic Modification System," ACM SIGSOFT/SIGPLAN Software Engineering Symposium on High-Level Debugging, (March 1983) 133-134.
(with C.J. Linn, J.L. Linn and T.M. Walker), "Cache Memories: A Tutorial and Survey of Current Research Directions," ACM 1982 National Conference, (Oct. 1982) 99-110.
(with N. Donde), "An Experiment to Improve Operand Addressing," Symposium on Architectural Support for Programming Languages and Operating Systems, (March 1982), 87-91.
"Abstractions for Distributed Programming", Workshop on Fundamental Issues in Distributed Computing, (Dec. 1980) 24-38.
"The StarMod Distributed Programming System," COMPCON 80, (Sept. 1980), 729-735.
"An Extensible Stack-Oriented Architecture for A High-Level Language Machine," International Workshop on High-Level Language Computer Architecture, Fort Lauderdale, Florida, (May 1980).
"A Tabular Compilation System for Augmented Precedence Parsing," Eighth Texas Computer Conference, Dallas, Texas, (Nov. 1979).
"*MOD--A Language for Distributed Programming," First International Conference on Distributed Computing Systems, Huntsville, Alabama, (Oct. 1979).

SOFTWARE SYSTEMS:

Compilers: EduScript, Algol-60, SOL, PL/I for XDS, SPL for XDS, SPL for Harris, FORTH, Modula, Modula-2, StarMod, C++, Obtuse
High-Performance Computing: OpenMP
Database Systems: RDB, XDB
Operating Systems: Phoenix, StarLite, POSIX Threads
Computer Networks: Next-generation TCP/IPV6 stack
Miscellaneous Systems: Algorithm Animation, Symbolic Debugger, Web Testing

WEB SITE:

http://www.professorcook.org

INVITED PRESENTATIONS:

“To Infinity and Beyond – the moon and mars missions," University of Utah, Feb. 2007.
“Smart Highway Systems," Tianjin University, Nankai University, 2nd Polytechnic University, Civil Aviation University, Hong Kong University, June 2006.
"Smart Highway Systems," DOT Cargo Handling Cooperative meeting, Philadelphia, PA, April 2005.
"Introduction to Concurrent Programming," NASA SPS Division, Cape Canaveral, FL, July 2004.
“Web Testing with an Object-Relational Database System,” ACM OOPSLA, Tampa, FL, Oct. 2001.
Mississippi State University, Migratory Applications, Nov. 1999
Florida State University, The Type Extensible Architecture of a Simple Database System, XDB, March 1999
University of Wisconsin-Madison, The Type Extensible Architecture of a Simple Database System, XDB, Jan. 1999
“Obtuse – A Scripting Language for Migratory Applications, “ invited talk Microsoft Research, July

1996.
“OnLine Courses Using The StarLite Environment,” ACM Mid-Southeast Fall Conference, Gatlinburg, TN, 1994.
“Real-Time Systems Issues," ONR Real-Time Systems Issues Workshop, University of Texas, 1986.
"The StarLite Project, A Meta-Operating System for Distributed Computing,” IEEE Workshop on Design Principles for Experimental Distributed Systems, Purdue University, 1986.
"An Introduction to the UNIX Operating System," Auerbach Publishers, 1986.
"Distributed Programming," COMPSAC-85,Chicago, Illinois, (Oct. 1985).
"The Crystal Nugget," University of Wisconsin-Madison Technical Report 499, 1983.
"The Crystal NuggetMaster," University of Wisconsin-Madison Technical Report 500, 1983.
"Wisconsin Modula," University of Wisconsin-Madison Technical Report 501, 1983.
"An Introduction to StarMod Programming for Pascal Users," University of Wisconsin-Madison Technical Report, 1981.
"An Extensible Stack-Oriented Architecture for A High-Level Language Machine," University of Wisconsin-Madison Technical Report, 1980.
"Schedulers as Abstractions--An Operating System Structuring Concept," University of Wisconsin-Madison Technical Report, 1980.
"An Introduction to Modular Programming for Pascal Users," University of Wisconsin-Madison Technical Report, 1979.
"VSOL - A Visual Simulation-Oriented Language," (presentation only) 16th Annual Southeastern Regional Meeting of the ACM, 1978.
"SOL - An Algorithmic Discrete Simulation Language," XDS Users' Group 19th International Meeting, 1974.
"PL1 - An Information Manipulation Language," XDS Users' Group 19th International Meeting, 1974.
"Tutorial on One-Pass Compiler Design," XDS Users' Group 16th International Meeting with G. Hansen and G. Haynam, 1971.
"Extended ALGOL 60 Reference Manual," Vanderbilt University Computer Center Report with G. Hansen and G. Haynam, 1970.
"SOL (Simulation-Oriented Language) Reference Manual," Vanderbilt University Computer Center Report with G. Hansen and G. Haynam, 1969.
"Programming a Computer to Play Cassino to Win," Eighth Annual Southeastern Regional Meeting of the ACM, 1969.

GRADUATE STUDENTS:

M.S. projects supervised at Georgia Southern (4)
M.S. projects supervised at Ole Miss (approximately 35)
Bill Cox, University of Wisconsin Ph.D. August 1986, "The Topaz Distributed File System," currently at AT&T.
Chan Chong, University of Wisconsin Ph.D. August 1983, "The Design and Implementation of a StarMod Virtual Machine," currently at the University of Hong Kong.
Insup Lee, University of Wisconsin Ph.D. May 1983, "A Language and Architecture for the Dynamic Modification of Programs," currently Cecilia Fitler Moore Professor at the University of Pennsylvania.
Thomas LeBlanc, University of Wisconsin Ph.D. December 1982, "The Design and Performance of High-Level Language Primitives for Distributed Programming," currently Provost at the University of Miami.
Chris Koeritz, University of Virginia M.S. 1990, "A Modula-2 Spreadsheet System."
Jenona Whitlach, University of Virginia M.S. 1987, "A Meta-File System."
Kathryn L. Bass, University of Virginia M.S. 1986, "A Portable, Extendible, Integrated Application Environment."
Richard A. Carpenter, University of Virginia M.S. 1986, "Analysis of Disk Caching Algorithms for the Lilith Computer."
Thomas M. Burger, Vanderbilt University M.S. 1978, "A Portable, Optimized Pascal Compiler."

PROFESSIONAL DEVELOPMENT:

1986	Technical consultant to SDIO BM/C3 Networking Subgroup.
1986	Consultant to Institute for Defense Analyses.
1986	Consultant to General Electric Corporation.
1984	Consultant to Tektronix Inc.
1981-1982	Consultant to General Dynamics, Nicolet Instruments.
1975	Evergreen Associates. Designed and implemented a systems programming language for SEL Inc.
1974	Evergreen Associates, Inc. Designed and implemented a systems programming language.
1973	Evergreen Associates, Inc. Implemented an array manipulation optimizer for Rank Xerox Ltd, developed a hardware design proposal for a high-level language computer for Xerox Corp., designed and boot-strapped (using ALGOL), and extended a comprehensive systems programming language (PL1) for Xerox Corp.
1972	Secretary/Treasurer of Evergreen Associates, a specialized software consulting company. My projects during the year included a design specification for a full PL/I compiler and runtime system for Xerox Corporation and an ALGOL compiler for Rank Xerox LTD. in Great Britain.
1968-1971	Vanderbilt University Computer Center. Worked as part of a development team that implemented ALGOL, SOL, and a multiprogramming operating systems for Xerox Corporation. This software resulted in direct grants to Vanderbilt of $500,000 worth of computer equipment and resources. My part in this development was an IFIPS subset ALGOL compiler, an Extended ALGOL-60 compiler, a SOL compiler, and a subset PL/I compiler.
1967	Vanderbilt University Computer Center. Worked as a systems analyst maintaining software for the XDS Sigma 7.
1966	Vanderbilt University Computer Center. Worked as a beginning programmer writing statistical routines for the IBM 7072.

GRANTS AND CONTRACTS:

03/11	20 Blackberry phones, Blackberry Corporation, $4,000.
09/08	NASA GA Space Grant Affiliate (with M. Edwards), $16,000.
09/07	NASA GA Space Grant Affiliate (with M. Edwards), $12,000.
09/06	NASA GA Space Grant Affiliate (with M. Edwards), $12,000.
09/05	NASA GA Space Grant Affiliate (with M. Edwards), $10,000.
05/05-06	Transportation Research Center (with C. White GA Tech), U.S. DOT, $452,000.
07/01-03	Microsoft Corporation, $3,000, Enterprise subscription to MSDN.
05/01-08/06:	Army Research Office(co-PI with Kang Shin(Michigan) and Insup Lee(Penn), Formal Methods for Real-Time Systems Software Development, $2,000,000.
10/00-9/01:	Office of Naval Research - Experiments With An Open Architecture for Parametric Discrete-Event Simulation, $75,897.
10/00	Microsoft Corporation, $5,000, National Classroom Project MSDN Enterprise subscription.
08/00	Palm Corporation, 20 Palm computers
10/99	Microsoft Corporation, $20,000, National Classroom Project.
10/98	Microsoft Corporation, $34,000, National Classroom Project.
06/98	Casio Corporation, 20 handheld PCs for the National Classroom Project.
03/98	Proxim Corporation, Wireless LAN PCMCIA cards and LAN bridge.
09/97	Microsoft Corporation, $9,300, Migratory Applications.
09/97	Microsoft Corporation, $43,000, Mobile Classroom Project.

09/96 Microsoft Corporation, $31,000 and 25 handheld PCs and the development system.
03/96 Xilinx development system and prototype boards, $5,000.
09/95 Advanced Micro Devices, 14 Sun workstations and several printers, $25,000.
9/90-9/92: Office of Naval Research (co-PI) - The StarLite Project: Prototyping Real-Time Software: Operating Systems, Communication Networks, Database Systems, $354,822.
5/90-5/95: National Science Foundation IIP (co-PI) - End-to-End Hardware/Software Systems Design, $5,500,000.
5/90-12/90: Hughes Aircraft Company (co-PI)- Establishment of a Simulatable Link Between An Operational Specification and a Performance Model, $49,587.
5/90-9/90: Office of Naval Research-Workshop on Real-Time Operating Systems and Software, $10,000.
9/88-9/90: Office of Naval Research -The StarLite Project: Prototyping Real-Time Software: Operating Systems, Communication Networks, Database Systems, $272,000.
6/87-6/90: Army Research Office - The Phoenix Operating System Project, $210,000.
11/86: Intel Corporation Equipment Grant, $6,500.
6/86: Burroughs Corporation Equipment Grant, $10,000.
5/86-3/88: Office of Naval Research -The StarLite Project, A Meta-Operating System for Distributed Computing, $203,286.
1/86: National Science Foundation Equipment grant, $150,000.
8/85: Virginia Center for Innovative Technology - The Lilith.mmp Project, $34,200.
6/85: National Science Foundation Equipment grant, $60,770.
6/85: Burroughs Corporation, multiple Liliths and Hermes software, $315,000.
4/85: Modula Corporation Equipment Loan, a Lilith and laser printer, $20,000.
1/85: Intel Corporation Equipment Grant, $20,000.
11/84: Virginia Center for Innovative Technology - An Integrated Programming Environment, $27,100.
5/84: Hewlett-Packard Inc. Equipment Grant, $48,000.
4/84: Intel Corporation Equipment Grant, $24,000.
10/83: Modula Corporation Equipment Loan, a Lilith computer, $8,000.
9/82-12/84: National Science Foundation - A Testbed for Distributed Programming, $66,280.
9/82-9/83: Hewlett-Packard Inc. Equipment Grant (co-PI), $157,360.
5/82-5/83 Digital Equipment Corporation Equipment Grant (co-PI), $250,000.
9/81: Intel Corporation Equipment Grant, $50,000.
6/81-6/86: National Science Foundation - (co-PI) A Software-Partitionable Multicomputer: A Testbed for Research in Distributed Computing, $4,700,000. The department adopted my theme for the proposal.
9/80-9/81: NAVY - Tools for Portable Systems, $17,894.
6/80-6/81: National Science Foundation Equipment Grant (co-PI) $90,025.
6/80-6/82: National Science Foundation - STARMAKER, A Software Implementation Tool for Distributed Systems, $62,249.
6/79-6/81: National Science Foundation - An Operating System for Symbiotic Control in a High-Level Environment, $46,141.
6/79-6/80: National Science Foundation Equipment Grant (co-PI) $20,000.

UNDERGRADUATE COURSES TAUGHT:

Honors Programming, Introduction to Computer Science, Data Structures, Computer Organization, Operating Systems, Discrete Mathematics, Programming Languages, Digital Logic Design, Java Programming, C++ Programming, Intro. to Database, Robotics, Senior Project, Computers and Society, Computer Architecture, Visual Basic, Systems Software, Movie Making, Object-Oriented Design, Windows Programming, Game Scripting, A+ Software Certification

GRADUATE COURSES TAUGHT:

Computer Architecture, Operating Systems, Advanced Operating Systems, Distributed Systems, Software Engineering, Computer Networks, Introduction to Expert Systems, Compiler Construction, Advanced Compiler Construction, Programming Languages, Database, Artificial Intelligence, Parallel Programming, Mobile Programming

CONSULTING:

Xerox Corporation, Rank Xerox, General Dynamics, Nicolet Instruments, Tektronix, General Electric, Institute for Defense Analysis, Microsoft, Sun Microsystems, RTG Consulting, U.S. Army Signal Command, Swedish Strategic Research Foundation, Fulbright Scholars Program, Invited lectures on space exploration and highway information systems at universities in Tianjin, Shanghai and Hong Kong, Gerson Lehrman Group.

COMMUNITY ACTIVITIES:

Cub Scout Den Leader and Scouting Coordinator, two-time President of the Woodbrook Elementary School Parent/Teacher Organization, Albemarle County PTO Central Council, Christian Education Committee and Sunday school teacher at Church of Our Saviour, math tutor twice a week at Woodbrook Elementary School, Founder and President Burley Middle School PTO, Sunday school teacher at Church of the Good Samaritan, Exchange Club of L.O.U. (Treasurer, President-Elect, President), Oxford School District Building Advisory Committee, Oxford Endowment for Public Education (Board member, Vice-President), founded and sponsored three FLL teams at Statesboro Middle Schools, LEGO Youth College Workshops, Computer Gaming Youth College Workshops, U.S. First LEGO competition judge, Hour of Code presenter.