S. I. SAFFER, Ph.D.
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EDUCATION:

1963-1968 B.A.   University of Texas at Austin
1968-1970 M.A.S. Southern Methodist University
1970-1973 Ph.D. Southern Methodist University

Graduate Major: Computer Science
Graduate Minor: Operations Research

SUMMARY:

Former **Department Head** at two Universities, **tenured Full Professor,** Department of Computer Science, Texas A&M-Commerce. Career objectives include teaching undergraduate and graduate Computer Science courses. Research interests include **Non-Linear Signal Processing, Networking, Computer Graphics, Database Systems, Intelligent Database Systems, Expert Systems, and Artificial Intelligence**. Previous computer science experience in both academic and industrial environments with emphasis on software design and development. Strong background in real-time computing, database management systems, and communications.

TEACHING EXPERIENCE:

Texas A&M-Commerce - **Tenured Full Professor** (1995-present)
                                        Department Head (1995-2007)
Oklahoma City University - **Associate Professor** (1990-1995)
Texas Woman's University - **Associate Professor** (1980-1983)
University of Texas Health Science Center - **Assistant Professor**: Joint Computer Science Program with UT Dallas.

COURSES TAUGHT:

LAN Networking, Programming Languages, Systems Programming, Data Structures, Database Management Systems, Digital Logic Design, Computer Organization and Architecture, Computers Graphics, Software Engineering, Introduction to Artificial Intelligence, C++ Programming, Pascal Programming, Modeling and Simulation, Probability and Statistics, Assembly Language Programming, Nonlinear Signal Processing.

PROFESSIONAL EXPERIENCE:

May 2007 – Present Texas A&M University –Commerce
        Tenured Professor, Department of Computer Science

Jan 1995 – May 2007 Texas A&M University -Commerce
        Department Head, Tenured Professor,
        Department of Computer Science and Information Systems.

Jun 1990 - Dec.1995: Oklahoma City University - Oklahoma City, OK.
        Department Chairman, Associate Professor,
        Department of Computer Science.
Responsibilities include graduate and undergraduate degree programs, schedule development and budget planning, development of "off-campus" graduate degree programs to increase enrollment, graduate teaching, graduate student advising, graduate and undergraduate Computer Science curriculum development.

Mar.1986-1989: AMDAHL COMMUNICATIONS DIVISIONS Richardson, TX.
        Senior Software Engineer.
Project manager for the Amdahl 4510 NMU. Responsible for the design and implementation of the Network Management Unit for the 4510 (X.25 network communications switch). Extensive "C" programming, Xenix, X.25. Member of the software development team responsible for the implementation a new "PAD",(Packet Assembler Disassembler) product. Project involved Pascal programming. Work in a special architecture group whose function is to study design and feasibility of new communication products,(T1 multiplexors, ISDN, SNA related products).

June 1985-Mar.1986: UNISYSTEMS INTERNATIONAL - Dallas, Tx.
        Senior Software Engineer
Responsible for the development of Unix and "training classes and training classes in SQL (Structured Query Language) for INFORMIX. Also responsible for Unix technical and sales support, and general support of Informix.

Feb.1984-May 1985: UNITED TECHNOLOGIES BUILDING SYSTEMS DIVISION, Dallas, TX.
        Senior Software Engineer
Work in database management systems applied to a communications switching (UTX-250); extensive "C"programming, Ingres, VAX-11/780.

Sept.1983-Feb.1984: AUTOMATED MANAGEMENT INCORPORATED, Dallas, TX.
        Technical Consultant.
Responsible for design and implementation of various database management applications.

1980-Sept.1983:TEXAS WOMAN'S UNIVERSITY, Denton, TX.

Associate Professor, Department of Math and Computer Science.
Developed Computer Science undergraduate curriculum and proposals for the establishment of an undergraduate and graduate Computer Science degree program. Teaching responsibilities included graduate and undergraduate Computer Science courses. Research in digital signal processing and prediction of ultrasound signals.

Consultant at the University of Texas Health Science Center, Dallas, Texas, where responsibilities included continuing maintenance of a relational database system, the development of data retrieval and reporting programs, statistical analysis programs as well as system hardware evaluation and software development of various small systems. Also responsible for writing and presenting proposals for project funding.

1975-1980: UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER, Dallas, TX.

Assistant Professor
Full member of graduate faculty with responsibilities for teaching, curriculum development, and dissertation supervision. Responsible for implementation of real-time computing software for the PDP-11/45, PDP-12, PDP-8 and DEC LSI-11 systems. Applications included real-time data acquisition and analysis of signals from transducers and electrodes. Other projects included an interactive graphics system for the Tekronix 4000 series, a database management system for EKG data, and a communications network linking various small computers to central host.

Obtained an NIH grant for a relational database management system for cardiovascular research. The system was implemented on a Tandem-16.

1970-1975: UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER, Dallas, Texas

Programmer Analyst.
Responsible for the design and implementation of real-time data acquisition and analysis programs. Designed small information systems using COBOL and FORTRAN.

HARDWARE: DEC PDP-11/45, DEC LSI-11, PDP-8, PDP-12,6800,6502,8086.
OPERATING SYSTEMS: RT-11, RSX-11M, RSTS-E, O/S-8,
DECSYSTEM-10, DECSYSTEM-20, UNIX SYSTEM V, XENIX.

SOCIETIES AND ORGANIZATIONS:

IEEE, IEEE Computer Society
ACM
Co-program Chairman, Dallas Chapter 1975.
Chairman of SIGBIO, Dallas 1974,1975.
Toastmasters International 1980,1981.

ABSTRACTS:

Lewis,M., Buja,L.M., Saffer,S.I., Mishelevich,D.J., Stokely,E.M., Parkey,R.W., Bonte,F.J., Willerson,J.T.: Experimental infarct sizing utilizing three-dimensional computer processing reconstruction techniques. Am. J. Cardiol. Vol 39, p.316. 1977.

Nixon,J.V., Saffer,S.I.: Three Dimensional Echoventricolograpgy. Circulation. Vol 58 Supp.II. P.157, 1978.

PUBLICATIONS: Shelley Irving Saffer, Ph.D.

Saffer,S.I., A stochastic simulation model of normal-abnormal liver function. Ph.D. Dissertation, Southern Methodist University,June, 1973.

Saffer,S.I., Mishelevich,D.J., Central real-time laboratory automation in a medical environment. Proceedings of the Federation of North Texas Area Universities, Second Annual Computer Science
Conference., pp. 230-245. 1975.

Saffer,S.I., Mishelevich,D.J.: A definition of real-time computing. Comm. ACM (Forum) Vol.#18, No.9, pp.554-555, Sept. 1975.

Saffer,S.I., Mize,C., Bhat,U.N., Szygenda,S.A.: Use of non-linear programming and stochastic modeling in the normal-abnormal evaluation of liver disease. IEEE Tran. Biomed. Engineering. Vol.#3, pp.200-207, May 1976.

Saffer,S.I., Nixon,J.V., Mishelevich,D.J.: A simple method for computer-aided analysis of echocardiograms. American Jour. Cardiology. Vol 38, pp.34-37, July 1976.

Galosy,R., Saffer,S.I., Fox,S.J.: CARDAT, A computer program for acquisition and analysis of cardiovascular data. Behavioral Research Methods and Instrumentation. Vol#8, pp.309-310, 1976.

Saffer,S.I., Daniel,P.L., Mize,C.E.: The comparison of a four-compartmental and a five-compartmental model of rose bengal transport through the hepatic system. Non-linear Systems and Applications. An International Conference Proceedings. Edited V.Lakshmikantham. pp.657-670. Academic Press, 1977.

Anderson,D.H., Eisenfeld,J., Saffer,S.I., Reisch,J.S., Mize,C.E.: The mathematical analysis for a four-compartment stochastic model of rose bengal transport through the hepatic system. Non-linear

Systems and Applications, Conference Proceedings. Edited V.Lakshmikantham. pp. 353-371. Academic Press, 1977.

Saffer,S.I., Mishelevich,D.J., Fox,S.J., Summerour,V.: NODAS - The Network Oriented Data Acquisition System for the medical environment. Proceeding National Computer Conf.#(NCC). AFIPS Vol#46. pp.295-299, 1977.

Lewis,M. Buja,L.M., Saffer,S.I., Mishelevich,D.J., Stokley,E.M., Lewis,S., Parkey,R., Bonte,F., Willerson,J.A.: Experimental infarct sizing utilizing computer processing and a three-dimensional model. Science. Vol#197, pp.167-169. July 1977.

Poliner,L.R., Buja,L.M., Parkey,R.W., Stokely,E.M., Stone,M.J., Harris,R., Saffer,S.I., Templeton,G.H., Bonte,F.J., Willerson J.T.:Comparison of different noninvasive methods of infarct sizing during experimental myocardial infarction. Journ. Nuc. Med. June 1977.

Mishelevich,D.J., Ward,D.L., Saffer,S.I.: A medical computer science program within a tri-institutional Mathematical Sciences Ph.D. program. Proceedings of the American Society for Information Sciences. Vol 15, pp.229-232, 1978.

Horn,V., Mullins,C.B., Saffer,S.I., Jones,D.C., Freeborn,W.A., Kapp,R.S., Nixon,J.V.: A comparison of mathematical models for estimating right ventricular volumes in animals and man. Clin. Card. Vol 2, pp.341-347, 1979.

Smith,D.B., Gatchel,R.J., Kroman,M., Saffer,S.I.: EEG and automatic responding to verbal, spatial and emotionally arousing tasks. Biol. Psy. Vol 9, pp.189-200. Nov. 1979.

Roan,P.G., Scales,F., Saffer,S.I., Buja,M., Willerson,J.T.: Functional characterization of LV segmental responses during the initial 24 hours and one week following experimental caninemyocardial infarction. Journ. Clin. Investigation. Vol 64,pp.1074-1088. 1979.

Lewis,M.H., Buja,L.M., Parkey,R.W., Mishelevich D.J., Bonte,F.J., Saffer,S.I., Richmond,J.R., Willerson,J.T.; A computer-based scintigraphic method for sizing acute inferior myocardial infarcts. Radiology. Nov, 1980.

Roan,P.G., Buja,L.M., Izquerdo,C., Hashimi,H., Saffer,S.I., Willerson,J.T.: Interrelationships between regional LV functional, coronary blood flow and myocellular necrosis during the initial 24 hours and 1 week after experimental coronary occlusion. Circulation Research. Vol#49, No.1, pp.31-40. July, 1981.

Saffer,S.I., Ward,D.L., Mishelevich,D.J.; Design of a relational database for the study of ischemic heart disease. Proceedings of the Fifth Annual Symposium on Computer Applications in Medical Care. Nov. 1981.

Sang C. Suh and S. I. Saffer, "Intelligent Expert Database System for General Physical Evaluation," Proceedings of the 7th International Conference on Artificial Intelligence and Expert Systems Applications, Nov. 9-10,1995, San Francisco, CA.

Sang C. Suh and S. I. Saffer, "Intelligent Expert Database System for Differential Diagnosis of Ear Diseases", The 7th International Conference on Artificial Intelligence & Expert Systems Applications, October 21-22, 1996, Paris, France.

Wen-Chang Weng, S. I. Saffer, "First Aid Advisor - An Expert System", Proceedings of the 2nd World Conference on Integrated Design and Process Technology, Austin, Texas, Dec. 1-4, 1996.

Saffer S. I. and Sang C. Suh, "Role of Orthogonal Vectoring of Data in the Reasoning of Expert Database Systems," The 9th International Conference on Artificial Intelligence and Expert Systems Applications, p.9-14, October 14-15, 1997, London.

Suh, Sang C., Saffer, S.I., "A Step Toward An Effective Method For Product Search, A User Model and Profile Based Search", Proceedings of the 6th World Conference on Integrated Design Process Technology, Session #16, No. 5, June 23-27, 2002, Pasadena, California.

Suh, Sang C., Saffer, S.I., Kincaid, V.N.,Yu, B., "Web Structure Reorganization for Adaptive Navigation Through Conceptual Clustering", Proceedings of Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 13 , 2003, pp. 807-812.

Sang C. Suh, S. Saffer, D. Li, and J. Gao, "A New Insight Into Prediction Modeling System," Proceedings of The 7th World Conference on Integrated Design and Process Technology, 13 pages, December 3-6, 2003, Austin, Texas, U.S.A.

Sang C. Suh, S. Saffer, V. Kincaid, and B. Yu, "Web Structure Reorganization For Adaptive Navigation Through Conceptual Clustering," Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 13, pp. 807-813, ASME Press, 2003, ISBN 0-7918-0204-3.

Sang C. Suh, S. Saffer, and Dan Li, "A New Insight into Prediction Modeling Systems", Journal of Integrated Design & Process Science, The Society for Design and Process Science & Software Engineering Society, Vol. 8, No. 2, pp. 85-104, June 2004.

Sang C. Suh, and S. I. Saffer, "Generating Meaningful Rules Using Attribute Concept Hierarchy", Intelligent Engineering Systems Through Artificial Neural Networks Vol. 16, pp. 406-411, ASME Press, New York, 2006, ISBN 0-7918-2222-0.

Sang C. Suh and S. I. Saffer, "Discovery of Useful Concepts Using the Hierarchy of Attributes and Concepts", Intelligent Engineering Systems Through Artificial Neural Networks Vol. 17, pp. 519-526, ASME Press, New York, 2007, ISBN 0-7920-2222-0.

Sang C. Suh, S. I. Saffer, and Naveen Kumar Adla, "Extraction of Meaningful Rules in a Medical Database", Proceedings of The 7th International Conference on Machine Learning and Applications (ICMLA'08),IEEE Systems, Man, and Cybernetics, 7 pages, San Diego, California, December 11-13, 2008.

Sang C.Suh, S.I. Saffer, S. G. Anaparthii, N. M. Sirakov, 2009, "Basics of Concepts Representation for Document Summarization", INC, IMS and IDC, 2009 Fifth International Joint Conference on 25-27 Aug. 2009 Page(s):1374 – 1380, IEEE Xplore Digital Library , ISBN: 978-0-7695-3769-6

Sang C. Suh, Sam I. Saffer, and Jhansi Baireddy, "Visual Representation of Hierarchy of Attributes and Concepts as Ontology for Semantic Reasoning", *Intelligent Engineering Systems Through Artificial Neural Networks,* Vol. 20, pp. 49-56, ASME Press, New York, 2010, ISBN 978-0-7918-5959-9.

Erdal Cosgun, Sam I. Saffer and Sang C. Suh, "Random Forest and Boosted Classification Tree Based Multifactor Dimensionality Reduction Analysis", *Proceedings of The 16[h] World Conference on Integrated Design and Process Technology (SDPS2011)*, the Society for Design and Process Science & Software Engineering Society, 15 pages, Jeju, Korea, June 12-16, 2011.

Pramukh Karla, Sam I. Saffer and Sang C. Suh, " Identification of Class of Services in the Internet and a Proposed Approach to Traffic Prioritization at Layer 3," *Proceedings of the IEEE Southeast Conference*, Orlando, FL, March 15-18, 2012.

Technical Report:
Saffer, S.I., Technical Report: Advanced Artificial Science. The development of an artificial science and engineering research infrastructure to facilitate innovative computational modeling, analysis, and application to interdisciplinary areas of scientific investigation. Final report: DOE award DE-SC0001132. U.S. Department of Energy, Office of Scientific and Technical Information. October, 2014. http://www.osti.gov/scitech/biblio/1164708.

Manuscript in review:
S. I. Saffer, Sang C. Suh, Derek Harter, "Project Corvus, a Net-Centric Cognitive System".

RECENTLY FUNDED GRANTS:

Corvus I: Proposal: The Development of a Unified Macro-Net Framework (UMF) and Accompanying Plug-in Analysis Knowledge Modules (PAKMs).
S. Saffer, Ph.D., (PI), Derek Harter,   Ph.D. (Co-PI), Shulan Lu, (Co-PI),: Sang Suh, Ph.D.(Co-PI). Funded as the Corvus I Project by L3 Communications /ComCept Divison for $60,000 Jan.2006-May. 2006. ($40,000 of $60,000 was funded for our projects within Corvis I).

Corvus II: A Continuation of the Development of a Unified Macro-Net Framework (UMF) and Accompanying Plug-in Analysis Knowledge Modules (PAKMs).

S. Saffer, Ph.D. (PI), Derek Harter, Ph.D. (PI), Shulan Lu, Ph.D. (Co-PI), Sang Suh, Ph.D. (Co-PI). Funded as the Corvus II Project by L3 Communications /ComCept Divison for $60,000 Jun.2006-Dec. 2006.

Corvus III, The Development of a Artificial Curiosity Cyberinfrastructure.
S. Saffer, Ph.D. (PI), Derek Harter, Ph.D. (PI). Shulan Lu, Ph.D., (Co-PI), Sang Suh, Ph.D. (Co-PI). Funded as the Corvus III Project by L3 Communications /ComCept Divison for $135,000 Jan. 2007.

Corvus Project Summary:

Corvus I, II, III: The Development of a Unified Macro-Net Framework (UMF) and Accompanying Plug-in Analysis Knowledge Modules (PAKMs), and The Development of a Artificial Curiosity Cyberinfrastructure. S. Saffer, Ph.D., (PI), Derek Harter,   Ph.D. (Co-PI), Shulan Lu, (Co-PI),: Sang Suh, Ph.D.(Co-PI).Funded Project by L3 Communications /ComCept Divison for $235,000 Jan.2006-2007.

Project Steem: A High-intensity, Team-based Approach to Increasing Enrollment and Graduation in STEEM (Science, Technology, Engineering, Education, Math) Disciplines Among Underrepresented Groups in the Northeast Texas Area.
Investigators: Ben Doughty, Rick Kreminski, Ph.D., Sam Saffer, Ph.D., Gilbert Naizer, Ph.D..
Co-Writer, Shannon Ragland.   Funded by the Greater Texas Foundation to promote interest and learning in the areas of Science, Technology, Engineering, Education & Math. Funded by the Greater Texas Foundation for $1.5 Million, 2006-2009.

National Science Foundation Grant: M2T2 - Maximizing Motivation, Targeting Technology. :
Gilbert Naizer, Ph.D., (PI), S. I. Saffer, Ph.D., (Co-PI), Tracy B. Henley, Ph..D. (Co-PI), Bao-An Li, Ph.D., (Co-PI). A three year grant for $990,000 under the NSF ITEST Program (Innovative Technology Experiences for Students and Teachers). Jan. 2009- 2011.

U.S. Department of Energy Grant TX-W-20090427-0004-50. Advanced Artificial Science. The development of an artificial science and engineering research infrastructure to facilitate innovative computational modeling, analysis, and application to interdisciplinary areas of scientific investigation. S. Saffer, Ph.D. (PI), Derek Harter, Ph.D., (Co-PI), Sang Suh, Ph.D., (Co-PI), Shulan Lu, Ph.D., (Co-PI), Frank Miskevich, Ph.D., (Co-PI). Funded by the Department of Energy for $380,000 in 2009. Future funding for $300,000 in 2010, and $300,000 in 2011.

2nd Year Funding for: U.S. Department of Energy Grant.TX-W-20090427-0004-50. Advanced Artificial Science. The development of an artificial science and engineering research

infrastructure to facilitate innovative computational modeling, analysis, and application to interdisciplinary areas of scientific investigation.

S. Saffer, Ph.D. (PI), Derek Harter, Ph.D., (Co-PI), Sang Suh, Ph.D., (coPI), Laurence Angel, Ph.D., (Co-PI). Funded by the Department of Energy for $291,600 in 2010, extended to 2012.

AWARDS and HONORS

Faculty Senate Recognition Award for Professional Excellence University Service Award 2013-2014