

Gregg T. Vesonder

vesonder@mac.com

<http://homepage.mac.com/vesonder> (homepage)

<http://vesonder.typepad.com/universe/> (blog)

AT&T Labs – Research

Room E257

180 Park Avenue

Florham Park, NJ 07932

(973)360-8350

Research Interests:

Software Engineering, Artificial Intelligence, Evolution of evolvability, Data Mining, Adaptive Systems, Cognitive Science and Human Computer Interaction

Teaching Interests:

Software Engineering, Software Architecture and Design, Artificial Intelligence, Security and Privacy, Adaptive Systems, Cognitive Science and Human Computer Interaction

Education:

1973 B.A., Experimental Psychology, University of Notre Dame

1977 M.S., Cognitive Psychology, University of Pittsburgh

1979 Ph.D., Cognitive Psychology, University of Pittsburgh

Honors:

- Appointed AT&T Fellow in 1996
- Appointed Bell Labs Fellow in 1990

Professional Experience:

- 2004-present Adjunct Professor, University of Pennsylvania, Computer and Information Science.
- 2003-present Executive Director, Communication Software Research Department, AT&T Labs – Research
- Data Mining on large data repositories using scientific cluster computing
 - Artificial Intelligence and Agent Systems in Operations
 - XML
 - Software Engineering in both specification and testing
 - Information Visualization
- 2002-2003 Head, Adaptive Systems Research Department, AT&T Labs – Research
- Artificial Intelligence in data analysis including natural language

- processing
 - Data Mining IVR (Interactive Voice Response) data
- 2002- Present Adjunct Professor, Stevens Institute of Technology, Computer Science Department teaching graduate course in software engineering, HCI and software architecture and design.
- 1996-2002 Division Manager, Advanced Software Technology Department AT&T Labs and Head, Online Platforms Research Department AT&T Labs – Research
- Responsible for Research and application of Research Technology with folks located in Florham Park, NJ, Menlo Park, CA and San Jose, CA
 - Research Management included
 - Cospace – avatar based 3D web browsing
 - Tivra and IOnaut – web crawler and search engine
 - MUDs, MOOs and Instant Messaging
 - Independent music distribution with Digital Rights Management- DigitalPhono
 - Development Management included:
 - Watson Automated Speech Recognition (ASR) and Text to Speech (TTS) platform - integrated it into AT&T's GeoPlex internet middleware platform
 - How May I Help You? Internal Interactive Voice Response system that used ASR instead of key presses to intelligently route customer calls
 - Natural Voices - human sounding TTS platform
 - a2bmusic - digital music distribution using audio compression software (AAC) and Digital Rights Management software developed internally. Interacted with major music labels and had roles in the phantom corporation of VP research and development and later CTO of a2bmusic. Also involved due diligence on a number of .coms in the bay area.
- 1993-1996 Technical Supervisor, Object Oriented and Artificial Intelligence Technology Group, AT&T Bell Laboratories, part of the Software Technology Center of Bell Labs developing middleware, software tools and software processes. Development management included:
- cfront – original compiler for C++ and related libraries – group member authored Best Common Practices for Object Oriented Technology
 - C5 – expert system development environment
 - Cin – developed a C interpreter in conjunction with research
 - Software mosaic – software process models based on the Software Engineering Institute's Capability Maturity Model
 - Software Design processes based on CRC (Class, Responsibility, Collaborators) cards. Group member wrote book on CRC cards

- C-Classic – intelligent configurator tool kit,
 - PROSE – system using C-Classic that configured AT&T’s 5E switch and dramatically reduced cycle time
 - Promoted Microsoft NT consideration and use for certain situations in the bastion of UNIX with talks such as, “Dr. Strangelove or: How I learned to Stop Worrying and Love Microsoft”
 - Performed extensive longitudinal study on using Microsoft NT, NeXT and Solaris Environments for Operation Support System Development
- 1983-1993 Technical Supervisor, Artificial Intelligence Technology Group, AT&T Bell Laboratories. Development Management included:
- Developed and maintained the Lisp and expert system development tool (OPS4) that ran on AT&T’s computer line
 - Developed and consulted on scores of expert system projects ranging from OKIES (OKlahoma city Interactive Expert System) for testing and repairing 3B computers to testing small business PBXs to diagnosing special service circuits – personally did initial development of OKIES and several other systems
 - Development of the C5 rule based language that was used in hundreds of projects throughout AT&T
 - Development of a portable (C based version) of Common Lisp
 - Development of a machine learning program, LODER, Learning on Data Base Environments which was used in OKIES and several other systems
- 1979-1983 Member of Technical Staff, AT&T Bell Laboratories
- Served as CHI (Computer Human Interaction) specialist for Bell Lab software systems
 - Conceived, designed, developed and trialed the first version of Bell Labs first expert system, ACE (Automated Cable Analysis). First expert system in telecommunications. Eventually was deployed in over 100 locations throughout world and was still in use at the millennium. Made Ian Ross’s list of the major accomplishments of his tenure as president of Bell Labs.
- 1973-1979 Graduate Research Assistant, Learning Research and Development Center of the University of Pittsburgh and Instructor, University of Pittsburgh

Courses Taught:

Software Engineering (EMTM 601), Executive Master's in Technology Management Program, 2 nd term 2004-2005, 1 st term 2005-2006, 1 st term 2006-2007, 1 st term 2007-2008.	University of Pennsylvania
Human Computer Interaction (EMTM 608) EMTM Program, 3 rd term 2004-2005, 2 nd term 2005-2006, 2 nd term 2006-2007.	University of Pennsylvania
IT Security and Privacy (EMM 604) 3 rd term 2005-2006, 3 rd term 2006-2007	University of Pennsylvania
Introduction to Quantitative Software Engineering, CS540, Fall 2002, Hoboken main campus and Intel, Parsippany; Fall 2003, 2004, 2005 Hoboken main campus; Spring 2004, Fall 2005 Picatinny Arsenal.	Stevens Institute of Technology
Software Architecture and Design, CS565, Spring 2003, Hoboken main campus, Spring 2005, Picatinny Arsenal, Spring 2006 Hoboken, Spring 2007, Fall 2007.	Stevens Institute of Technology
Introduction to Quantitative Software Engineering (Online Course), CS540WS, 2003-2007.	Stevens Institute of Technology
Software Architecture and Design (Online Course), CS565WS, 2006-2007.	Stevens Institute of Technology
Expert Systems	Monmouth University
Introduction to Artificial Intelligence	Monmouth University
Software Architecture	Monmouth University
Cognitive Psychology	University of Pittsburgh

Papers and Presentations:

Wright, J.R., Pelletier, J.A., Dasu, T. and Vesonder, G.T. "Information quality for network monitoring and analysis," International Journal of Information Quality, in press.

Wright, J.R., Vesonder, G.T. and Dasu, T. "Management of Data for Large Scale Data Mining," In Al-Hakim (Ed.) Challenges of managing information quality in service, Idea Group Publishing, 2007.

Wright, J.R., Majumder, D., Dasu, T. and Vesonder, G. T. "Statistical Ensembles for Managing Complex Data Streams." Proceedings of the International Workshop on Statistical Modeling, 2005, 431-436.

Wright, J.R., Vesonder, G.T. and Dasu, T. "Stewardship and Staging of Information for Enterprise Mining." Proceedings of Ninth International Conference on Information Quality, 2004.

Dasu, T., Vesonder, G.T. and Wright, J.R. "Data Quality through Knowledge Engineering." Proceedings of the KDD, 2003, 705-710.

Vesonder, G.T. "Internet commerce futures, Camelot or Blade Runner?" Talk at University of Massachusetts Electronic Commerce: Foundations for the Future, June, 1999, Boston, Massachusetts.

Jon R. Wright, Deborah L. McGuinness, Charles Foster, and Gregg T Vesonder. "Conceptual Modeling using Knowledge Representation: Configurator Applications." In Proceedings of Artificial Intelligence in Distributed Information Networks, Montreal, Canada, August, 1995.

Dennis Mancl, Frank Armour, Todd Cotton, Geoff Hambrick and Gregg Vesonder "Tailoring OO analysis and design methods (panel)." Proceedings of the 10th Annual Conference on Object-oriented Programming Systems Languages and Applications, 1995, Austin, Texas, 94-44.

Wright, J.R., Weixelbaum, E., Vesonder, G.T., Brown, K.E., Palmer, S.R., Berman, J.I. and Moore, H.H. "A knowledge-based configurator that supports sales, engineering and manufacturing at AT&T Network Systems." AI Magazine, 1993, 14(3), 69-80.

Barachini, F., Hattori, F. Pauthner, G. Remmele, W. and Vesonder G.T. "Telecom and AI: The emperor's new clothes?" IJCAI, 1993, 1690-1692.

Kowalski, T., Sequist, C., Ellis, B., Goguen, H. H., Puttress, J. J., Castillo, C. M., Rowland, J. R., Rath, C. A., Wilson, J. M., Vesonder, G., AND Schmidt, J. L. 1991. "A reflective C programming environment." Proceedings of the International Workshop on UNIX-Based Software Development Environments. USENIX Assoc., Berkeley, CA.

Wright, J.R. and Vesonder, G.T. "Expert Systems in Telecommunications." Expert Systems with Applications, 1990, 1(2), 127-136

Vesonder, G.T. "A decade of expert systems at AT&T." Proceedings of Network Management and Control Workshop, 1989, Tarrytown, NY.

Ackroff, J.M., Surko, P.T., Vesonder, G.T. and Wright, J.R. "SARTS AutoTest-2" In M. Bramer (Ed.) Practical Experience in Building Expert Systems, John Wiley and Sons, 1990.

Gordin, D., Foxvog, D., Rowland, J.R., Surko, P.T., and Vesonder, G.T. "OKIES: A troubleshooter in the factory." Proceedings of the First International Conference on Industrial & Engineering Applications of Artificial Intelligence and Expert Systems, 1988, Vol 1, Tullahoma, TN.

Vesonder G.T. "Rule-based programming in the UNIX system." AT&T Technical Journal, 1988, 67(1), 69-80.

Vesonder, G.T. "Guest Editorial." IEEE Communications Magazine, 1988, 26(3), 4.

Vesonder, G.T. "Tools for expert systems." Workshop on the Integration of Expert Systems into Network Operations, 1987, Seattle, Washington.

Voss, J.F., Vesonder, G.T., Post, T.A., and Ney, L.G. "Was the item recalled and if so by whom?" Journal of Memory and Language, 1987, 26, 466-479.

Rowland, J.R. and Vesonder, G.T. "LODE: A system for learning kernel knowledge bases from data bases." Symposium Proceedings of Expert Systems in Telecommunications, 1987, New York.

Vesonder, G.T. "Intelligence, artificial and human: Towards a new division of labor." Panel of 35th Annual Management Conference of the University of Chicago Business School, 1987.

Rowland, J.R. and Vesonder, G.T. "Incremental conceptual clustering from existing databases." Proceedings of 1987 ACM Fifteenth Annual Computer Science Conference, 80-85.

Vesonder, G.T. "Some thoughts on building expert systems." Talk at Third Annual University of South Carolina Computer Science Symposium on Knowledge Based Systems: Theory and Applications, 1986, Columbia, SC.

Vesonder, G.T. "A review of the first generation of expert systems: Their techniques, their accomplishments and their promise." Proceedings of the Joint Seminar on Computer Communication, 1984, Bangkok, Thailand, 293-301.

Vesonder, G.T., Stolfo, S.J., Zielinski, J.E., Miller, F.D. and Wright, J.R. "The application of artificial intelligence technology for managing the local telephone network." Proceedings of the Seventh International Conference on Computer Communication, 1984, Sydney, Australia, 807-811.

Wright, J.R., Miller, F.D., Otto, G.V.E.O., Siegfried, E.M., Vesonder, G.T. and Zielinski, J.E. "ACE: Going from prototype to product with an expert system." Proceedings of ACM 84, 1984, San Francisco.

Miller, F.D., Copp, D.H., Vesonder, G.T. and Zielinski, J.E. "The ACE experiment: Initial evaluation of an expert system for preventive maintenance." Proceedings of the Joint Services Workshop, 1984.

Vesonder, G.T., Stolfo, S.J., Zielinski, J.E., Miller, F.D. and Copp, D.H. "ACE: An expert system for telephone maintenance." Proceedings of the Eight International Joint Conference on Artificial Intelligence, 1983, Vol. 1, 116-121.

Stolfo, S.J. and Vesonder, G.T. "ACE: An expert system supporting analysis and management decision making." Columbia University Computer Science Technical Report Series, October, 1982.

Voss, J.F., Vesonder, G.T. and Spillich, G.J. "Text generation and recall in high knowledge and low knowledge individuals." Journal of Verbal Learning and Verbal Behavior, 1980, 19, 651-667.

Spillich, G.J., Vesonder, G.T., Chiesi, H.L. and Voss, J.F. "Text processing of domain related information for individuals with high and low domain knowledge." Journal of Verbal Learning and Verbal Behavior, 1979, 18, 275-290.

Vesonder, G.T., Lesgold, A.M. and Wolf, R.V. "The use of microprocessors in a timeshared computer facility for research, development and teaching." Behavior Research Methods and Instrumentation, 1978, 10, 510-515.

Bisanz, G.L., Vesonder, G.T. and Voss, J.F. "Knowledge of one's own responding and the relation of such knowledge to learning: A developmental study." Journal of Experimental Child Psychology, 1978, 25, 166-178.

Bisanz, G.L., Laporte, R.E., Vesonder, G.T. and Voss, J.F. "The representation of prose in memory: New dimensions." Journal of Verbal Learning and Verbal Behavior, 1978, 17, 337-357.

Pellegrino, J.W., Posnansky, G. and Vesonder, G.T. "Developmental changes in free recall: The interaction of task structure with age." Journal of Experimental Child Psychology, 1977, 24, 89-96.

Professional Affiliations:

ACM, AAAS

Professional Activities:

Member, International Program Committee, Seventh International Conference on Intelligent Systems Design and Applications, Rio De Janeiro, Brazil, 2007.

Member, Editorial Board of International Journal of Information Quality

Member, Editorial Board of the journal, Computer Systems Science and Engineering

Associate editor in charge of Telecommunications and Network Management of the journal, Intelligent Systems Review

Guest editor, artificial intelligence and expert systems, IEEE Communications Magazine

Chair, session on Network Monitoring, 9th International Workshop on Expert Systems and their Application, Specialized Conference on AI, Telecommunications and Computer Systems, 1989, Avignon, France

Personal Data:

Born July 18, 1951

Married (Kathy), 2 children (Leah and Matthew)

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