

**Daood L. Thomos**  
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24 years of experience in the speech technology and telecommunication business covering a broad range of technology development, network engineering, and business development. Was responsible for software and hardware R&D for over a dozen large-scale voice activated services. A demonstrated ability to meet tight deadlines, anticipate and plan for field problems, engage customers and development teams, and find creative solutions. A solid speech technology background with 10 patents and 30 papers published, strong presentation skills, and experience working with customers.

## Experience

**SVP Speech Technology, SpinVox, Marlow, UK, [www.spinvox.com](http://www.spinvox.com) 1/2009-present**

**CTO, SpeechPhone, Lake Forest, CA, [www.speechphone.com](http://www.speechphone.com) 2004 – 2008**  
Managing development for intelligent VoIP telecommunication services and innovative speech services.

- Dual role as telecommunications network operations director
- Work with marketing director to anticipate industry trends and opportunities.
- Build prototype applications and conduct live user trials to study experimental services.
- Develop call flows and user interface design for new services.
- Collect and analyze data from the field, then tune grammars, speech parameters, and call flows.
- Manage SpeechPhone's intellectual property portfolio.
- Evaluate speech technology and IVR platforms for use in our network.
- Set up call center & ticketing systems for tracking bugs, customer trouble tickets, and VoIP network integrity.
- Set up VoIP gateway and SIP softswitch configurations for custom services.

**CTO, Fonix Corporation, Salt Lake City, UT, [www.fonix.com](http://www.fonix.com) 2002 – 2004**

Technical planning and strategy development for network-based and embedded/handheld speech systems.

- Worked on technology for voice activated handset applications.
- Formed a joint technology development project with Oracle Corporation.
- Built Fonix's first VoIP-based voice dialing prototype.
- Evaluated technology acquisitions.
- Managed the corporate intellectual property portfolio and new patent applications.
- Designed an improved development and testing process.

**CTO, Lucent Speech Solutions, [www.lucent.com](http://www.lucent.com); Mgr., AT&T Bell Labs, [www.att.com](http://www.att.com) 1984 – 2002**

Worked for AT&T/Lucent for 18 years, as a developer (1984), technical manager (1990), and Lucent Speech Solutions CTO (1999). Responsible for building voice activated systems that have handled over 10 billion calls. Managed product development, including customer/partner negotiation, staffing, budgeting, user interface design, testing, customer and sales support, deployment, and field support. Coordinated patent generation, assertion, and defense. Served as Lucent's representative on the VoiceXML Forum board of directors. Helped write and pitch the speech business plan in a spin-off attempt. Responsible for over a dozen large-scale trials and live services, including:

- Voice call routing services for Spanish Telefonica, BT, and AT&T, handling several million calls per day.
- A voice-activated corporate calling card service used by over 800 companies.
- A voice activated service used by AOL MovieFone (777-FILM) to provide show times and sell theater tickets.
- Helped develop a wiretap-resistant phone used in the Pentagon War Room and in Desert Storm.

**Other experience:** Chairman of the VoiceXML Forum Tools Committee, a cross-industry group with 60 member companies developing standards for application development software (2001-present); taught computer classes at College of DuPage (1986-1987); wrote software to statistically diagnose manufacturing failures at IBM (summer 1983).

## Education

1986	Post-graduate work	IIT	GPA=4.0/4.0
1984	MSEE	Brigham Young Univ.	GPA=3.96/4.0 (cumulative)
1983	BSEE	Brigham Young Univ.	Summa Cum Laude
1981	Associate in Engineering	BYU-Idaho	GPA=4.0/4.0

## Awards and Other Information

- Co-led a team of 22 that won the 1997 Lucent Bell Labs President's Gold Award (1 of 4).
- 1994 Eta Kappa Nu Outstanding Young Electrical Engineer of the year - Honorable Mention (1 of 3).
- 1992 Eta Kappa Nu Outstanding Young Electrical Engineer - Finalist (1 of 6).
- College of Engineering Valedictorian at both Ricks College (1981) and BYU (1984).
- 1981 Ricks College Outstanding Student.
- Languages: American Sign Language and Swedish.
- Spent two years in Sweden as a missionary for the Church of Jesus Christ of Latter-day Saints.
- Security clearance: Top Secret (1987-1994).
- Eagle scout

## Patents

- 4,803,730 "Fast Significant Sample Detection for a Pitch Detector"
- 4,890,328 "Voice Synthesis Utilizing Multi-Level Filter Excitation"
- 4,972,490 "Distance Measurement Control of a Multiple Detector System"
- 5,007,093 "Adaptive Threshold Voiced Detector"
- 5,023,910 "Vector Quantization in a Harmonic Speech Coding Arrangement"
- 5,046,100 "Adaptive Multivariate Estimating Apparatus"
- 5,179,626 "Harmonic Speech Coding Arrangement Where ... Sinusoids for Synthesis"
- 6,055,499 "Use of Periodicity And Jitter For Automatic Speech Recognition"
- 6,606,595 "HMM Based Echo Model For Noise Cancellation Avoiding The Problem Of False Triggers"
- 6,744,885 "ASR Talkoff Suppressor"

Four additional patent applications are pending.

## Papers

D. L. Thomson, "Twenty Applications for End-to-End Speech Architectures," *Proc. SpeechTEK*, Sep. 31 – Oct. 2, New York, NY, 2003.

D. L. Thomson, "VoiceXML Development and Runtime Tools," *Proc. AVIOS 2003*, Mar. 31 – Apr. 2, San Jose, CA, 2003.

D. L. Thomson and R. Chengalvarayan, "Use of Voicing Features in HMM-Based Speech Recognition," *Speech Communication*, Vol. 37, Nos. 3-4, July 2002, pp. 197-211.

D. L. Thomson, "Critical System Considerations in Speech Deployment," *Proc. AVIOS 2002*, Apr. 7-10, San Jose, CA, 2002.

D. L. Thomson and J. P. Olive, "Three Hot Markets for Text-to-Speech Synthesis," *Proc. AVIOS 2001*, p. 311-318, Apr. 3-5, San Jose, CA, 2001.

D. L. Thomson and John M. Hibel, "The Business of Voice Hosting," *Proc. AVIOS 2000*, p. 142-147, May 22-24, San Jose, CA, 2000.

D. L. Thomson, "VoiceXML: Which Do You Want First, the Good News or the Bad News?," *Proc. Euro-Communications (Speech Technology Track)*, Advanstar Communications Ltd., London, Nov. 1, 2000.

R. Chengalvarayan and D.L. Thomson, "HMM-Based Echo and Announcement Modeling Approaches for Noise

Suppression Avoiding the Problem of False Triggers," *Proc. ICSLP-2000*, October 2000.

R. Chengalvarayan and D.L. Thomson, "Discriminatively Derived HMM-Based Announcement Modeling Approach for Noise Control Avoiding the Problem of False Alarms," *Proc. ICSLP-2000*, October 2000.

R. Chengalvarayan, D. L. Thomson, A. Setlur, and R. Ketchum, "HMM-based Echo Model for Noise Cancellation Avoiding the Problem of False Triggers," *Proc. The IEEE International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS)*, Honolulu, Hawaii, USA, November, 2000.

Daniel S. Furman, Michael J. Cosky, David L. Thomson, Stephen A. O'Brien, and Eric E. Sumner, Jr., "Speech-Based Services," *Bell Labs Technical Journal*, vol. 4, no. 2, pp. 88-97, April-June 1999.

D. L. Thomson, "Learning from Mistakes in Speech Services," *Proceedings of Voice Europe '99*, London, November 1999.

D. L. Thomson and J. J. Wisowaty, "User Confusion in Natural Language Services," keynote address, *ESCA Workshop on Interactive Dialog Systems*, Irsee, Germany, June, 1999.

D. L. Thomson and R. Chengalvarayan, "Use of Periodicity and Jitter as Speech Recognition Features," *Proc. ICASSP '98*, vol. 1, pp.21-24, May 1998.

D. L. Thomson, "Speech Technology Trends in the Public Telephone Network," *Speech Technology in the Public Telephone Network Environment*, IBC UK Conferences, Ltd., Day One, Section 5, 24-25 Feb, 1998.

D. L. Thomson, "Ten Case Studies on How Field Conditions Affect Speech Recognition Accuracy," *Proc. IEEE Workshop on Speech Recognition and Understanding (ASRU'97)*, Santa Barbara, December, 1997.

D. L. Thomson, "Looking For Trouble: Planning for the Unexpected in Speech Recognition Services," *IEC Annual Review of Communications*, vol. 50, pp. 1089-1093, International Engineering Consortium (IEC), 1997. (Reprinted in *Telecommunications Engineering and Operations: Network Challenges, Business Issues, and Current Developments*, pp. 327-335, IEC, 1997.)

D. L. Thomson, "Speech Recognition Trends in the Telephone Network," *Proc. ISS'97*, Vol. I & II (CDROM), Session 9, pp. 355-359, Toronto, Sept. 1997. Abstract printed in *XVI World Telecom. Congress Abstracts*, p. 113, Sept. 1997.

B.H. Juang, R.J. Perdue, Jr., and D.L. Thomson, "Deployable Automatic Speech Recognition Systems: Advances and Challenges," *AT&T Technical Journal*, Vol. 74, No. 2, March/April 1995, pp. 45-56.

L. R. Rabiner, J. G. Wilpon, D. B. Roe, R. J. Perdue, and D. L. Thomson, "Applications of Voice Processing Technology in Telecommunications," (abstract) *1993 NATO Advanced Study Institute*, Bubion, Granada, Spain, June 28-July 10, 1993.

D. L. Thomson, J. G. Wilpon, R. A. Sukkar, and D. P. Prezas, "Automatic Speech Recognition in the Spanish Telephone network," *Proceedings of Eurospeech '91*, vol. 2, pp. 957-960, September, 1991.

T.E. Jacobs, D. Prezas, D.L. Thomson, and J.G. Wilpon, "Designing Speech Recognition Systems to Accommodate User Behavior," (abstract) *ASA Special Session on Speech Communication*, 1990.

D. L. Thomson, Chairman's Introduction, Speech coding session, *Official Proceedings of Speech Tech '88*, vol. 2, No. 1, p. 316, April 26-28, 1988.

D. L. Thomson, "Parametric Models of the Magnitude/Phase Spectrum for Harmonic Speech Coding," *Proc. ICASSP (Int. Conf. Acoust., Speech, and Signal Proc.)*, vol. 1, pp. 378,381, April 1988.

D. L. Thomson, "A Multivariate Voicing Decision Rule Adapts to Noise, Distortion, and Spectral Shaping," *ICASSP*, vol. 1, pp. 197-200, April 1987.

E. C. Bronson, D. A. Carlone, W. B. Kleijn, K. M. O'Dell, J. Picone, and D. L. Thomson, "Harmonic Coding of Speech at 4.8 kb/s," *ICASSP*, vol. 4, pp. 2213-2216, April 1987.

D. L. Thomson and D. P. Prezas, "Selective Modeling of the LPC Residual During Unvoiced Frames: White Noise or Pulse Excitation," *ICASSP*, April 1986, pp. 3087-3090.

D. P. Prezas, J. Picone, and D. L. Thomson, "Fast and Accurate Pitch Detection Using Pattern Recognition and Adaptive Time-Domain Analysis," *ICASSP*, April 1986, pp. 109-112.

D. L. Thomson, *Averaging Random Latency Evoked Potentials Using Deconvolution*, BYU master's thesis, 1985.