

T. V. Raman
Google Research

(650) 799-5724 (<i>Cell</i>)	(408) 363-3565 (<i>Home</i>)
<i>E-mail:</i> tv.raman.tv@gmail.com	emacspeak.sf.net/raman

Summary

I am an accomplished Computer Scientist with over 16 years of industry experience in advanced technology development. During this time, I have authored 3 books and filed over 50 patents; my work on eyes-free interaction and auditory interfaces has been profiled in various leading publications including the NY Times (January 2009) and Scientific American (September 1996). I have leading edge expertise in designing eyes-free mobile interfaces, auditory interaction, and Web standards. I participate in numerous W3C working groups and authored Aural CSS (ACSS); in 1996 I wrote the first ACSS implementation. I have served as an elected member of the W3C's Technical Architecture Group (TAG) since 2006.

Objective

Develop technologies that drive the future of the Web toward eyes-free, ubiquitous information access. Speech is the next natural dimension in user interfaces, and I am developing application frameworks that combine speech technologies with the power of the Web to deliver innovative multimodal solutions that are available anytime, anywhere.

Work experience

- Google, [Google Research](#), Mountain View, CA
Research Scientist. Aug 2005–Present.
Search Launched Accessible Search in July 2006.
Web-2.0 Framework for access-enabling Web-2.0 applications, October 2007.
Android TTS Open Source TTS API for Android, December 2008.
Eyes-Free Eyes-free tools, including an innovative stroke dialer, April 2009.
Android Access Platform access APIs, plus an Open Source screenreader, September 2009.
- IBM Research, [Almaden Research Center](#), San Jose, CA
Research Staff Member: Architect, Conversational Multimodal WWW. Aug 1999–Aug 2005.
XForms Authoring applications for the next generation WWW.
RDC Reusable Dialog Components to speech-enable the Web.
X+V Speech-enabling XHTML to create a *multimodal* Web.
- Adobe Systems, Advanced Technology Group, San Jose, CA
Senior Computer Scientist: Dynamic publishing on the Internet. Oct 1995–Aug 1999.
PDF2HTML Developed the PDF to HTML translator bundled with major Web search engines — access.adobe.com.
XML Metadata Developed an XML-based virtual document architecture to enable cross-application content reuse.
- Digital Equipment Corporation, Cambridge Research Lab, Cambridge, MA
Research Staff: Retriever –A Multimodal Web Interface. Feb 1994–Oct 1995.
- Intel Corporation, Intel Architecture Labs, Hillsboro, OR
Summer Associate: Prototyped an email telephony interface. Jun–Aug 1993.
- Xerox Palo Alto Research Center, Palo Alto, CA
Summer Associate: Prototyped a new reading machine architecture. May–Aug 1991.

Education

- **Cornell University**, Ithaca, NY
 - **PhD. Applied Mathematics:** Aug 1989–Jan 1994.
Awarded the **ACM Doctoral Dissertation Award, 1994.**
Thesis: Audio System For Technical Readings. Adviser: Prof. David Gries, Computer Science.
 - **MS Computer Science:** May 1992.
- **Indian Institute of Technology**, Bombay, India: **MSc Computer Science:** *GPA: 9.78/10.00* July 1989.
- **University of Pune**, Pune, India: **BA Mathematics:** May 1987.

Selected Awards and Honors

- **Computerworld Award** Smithsonian Institution **Emacspeak:** Complete Audio Desktop. April 1999.
- **Association of Computing Machinery (ACM) Doctoral Dissertation Award** 1994.
- **Intel Graduate Fellowship** Intel Corporation, CA 1992.
- **Graduate Fellowship** Cornell University. 1989.
- **President's Silver Medal** Indian Institute of Technology, Bombay. 1989.
- **Sir Cusrow Wadia Gold Medal** University of Pune. 1987.
- **Sir Ness Wadia Gold Medal.** 1984.

Books, Patents And Software

- 1 T. V. Raman. *XForms — XML Powered Web Forms*. Addison Wesley, September 2003.
- 2 T. V. Raman. *Audio System For Technical Readings*. LNCS 1410, Springer Verlag, December 1998.
- 3 T. V. Raman. *Auditory User Interfaces —Toward The Speaking Computer*. Kluwer Academic Publishers, August 1997.
- 4 T. V. Raman. *Generating audio renderings of digitized works*. Cornell Univ. U.S. Patent 5,572,625, November 1996.
- 5 T. V. Raman and Jim A. Larson. *Telephone access system*. Intel Corporation. U.S. Patent 5,825,854, October 1998.
- 6 T. V. Raman. *Multimodal information presentation system*. DEC. U.S. Patent 5,748,186, May 1998.
- 7 T. V. Raman. *Data stream processing on networks*. Adobe Systems. U.S. Patent 6,134,598, October 17, 2000.
- 8 T. V. Raman and John Warnock. *Digitized speech and text*. Adobe Systems. U.S. Patent 6,151,576, November 2000.
- 9 T. V. Raman. *Document description format*. Adobe Systems. U.S. Patent 6,249,794, June 6, 2001.
- 10 T. V. Raman. *Speech interface for computer application programs* DEC. U.S. Patent 6,289,312, September 11, 2001.
- 11 T. V. Raman. et al *Dialog management in a multimodal environment* IBM. U.S. Patent 6,839,896, January 4, 2005.
- 12 T. V. Raman. et al *Web accessibility service apparatus and method* IBM. U.S. Patent 6,922,726, July 21, 2005.
- 13 T. V. Raman. *Emacspeak — The Complete Audio Desktop*. Open Source Software, May 1995.

Selected Publications And Articles

- 1 T. V. Raman. Netsurfing without a monitor. *Scientific American*, March 1997. [Special Internet Edition](#).
- 2 T. V. Raman. [Emacspeak —a speech enabling interface](#). *Dr. Dobb's Journal*, September 1997.
- 3 T. V. Raman. [User interface —a means to an end](#). *Dr. Dobb's Journal*, August 1997.
- 4 Wayt Gibbs. [Profile: T. V. raman: Envisioning speech](#). *Scientific American*, September 1996.
- 5 Brian Hayes. [Speaking of mathematics](#). *American Scientist*, 84(2), March–April 1996.
- 6 T. V. Raman. Cascaded speech style sheets. *WWW6 Conference*, CA., April 1997.
- 7 T. V. Raman. [Audio System for Technical Readings](#). PhD thesis, Cornell University, May 1994.
- 8 T. V. Raman. Emacspeak —a speech interface. *CHI96*, April 1996.
- 9 T. V. Raman et al. XForms 1.0 W3c, October, 2003. <http://www.w3.org/tr/xforms>
- 10 T. V. Raman et al. XML Events W3c, 2003. <http://www.w3.org/tr/xml-events>
- 11 T. V. Raman et al. Adding Spoken Interaction To XHTML W3c, December, 2001. <http://www.w3.org/tr/xhtml+voice>
- 12 T. V. Raman [Collecting Business Critical Information Using XForms](#) *XML Journal*, April, 2003.

Locating My Publications			
ACM	CiteSeer	CSB	DBLP

Other Interests

My favorite hobby is [recreational mathematics](#). I enjoy working on puzzles, especially those that involve an intuitive feel for mathematics. One of the things I enjoyed doing the most in the early eighties was to solve the Rubik's cube faster than anyone else around me, on an average of about [thirty seconds](#)! During the last few years, discovering [Zome Systems](#) for building complex polyhedra has helped rekindle my interest in polyhedral geometry. I am also interested in linguistics and can speak about eight languages, including French, German and several Indian languages.