

# Stefan Marti, Ph.D.

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## Summary

I reverse-engineer science fiction.

In order to do that, I create new ideas, technologies, and opportunities. My strengths are "engineering creativity," and connecting the dots of research and emerging technologies to create radically new products and services. I constantly think about the future, but rather than trying to predict it, I simply create it.

As a seasoned executive leader and entrepreneur, I have 20 years of experience in corporate and academic environments, including MIT, Samsung, Hewlett-Packard, and HARMAN. I am currently Vice President for Future Experience and AI at HARMAN (since 2017 a subsidiary of Samsung), leading the corporate FX team and the corporate AI team. I have an excellent track record of founding and managing cross-functional, high-performing skunk works teams. I hold multiple advanced degrees in computer science, engineering, and social sciences, including a Ph.D. from the MIT Media Lab.

At the core, I am a Human-Computer Interaction (HCI) research scientist and inventor. I envision, create, and develop systems and products with fundamentally novel user experiences. I hold 56 U.S. patents, and 300+ (U.S. and international) are pending, making me one of the most prolific HARMAN inventors in recent years. My work, which is well documented and published internationally, is in the fields of human augmentation (social, knowledge, emotion, etc.), autonomous vehicles (ground and air based), hearables and post-wearables, augmented reality (visual, auditory, haptic), non-traditional interaction methods (HCI and HMI), human-robot interaction, robotically augmented devices, aerial robotics and drones, non-verbal interaction, gestural and conversational systems, cognitive and affect sensing, neural sensing and stimulation, and more.

Some recent works include:

1. Shape-Shifting Interfaces: controllers and surfaces which can subtly change their shape and texture to communicate on a semi-subconscious level, load-balancing the human senses
2. Auditory Augmented Reality for hearables and in cars, enabling super human hearing capabilities by allowing the user to selectively cancel, add, enhance, or attenuate auditory events
3. Cognitive Sensing Systems: real-time sensing of the brain's cognitive load and emotional states by analyzing pupil diameter fluctuations, facial and voice cues, to be used in cars (DMS) and other systems
4. Wearable pointing based object recognition system, enabling casual omniscience
5. Eye Vergence and Gaze Sensing for controlling transparent displays and HUDs
6. Ungrounded force actuators for wearables and hearables to gently "nudge" a user
7. Conversational chest worn badge that interfaces the wearer with all IoT devices
8. Pseudo-holographic instrument cluster with gesture control that uses the space between steering wheel and driver to dynamically render contextual information
9. Bare-hand gesture control of spatialized sounds, both on wearables and in cars
10. 3D see-through-dash display system based on adaptive robotic cameras or forward facing camera arrays

**Work  
Experience**

**HARMAN INTERNATIONAL (Jun 2012 - present)**

**Mountain View, CA**

**Vice President for Future Experience and AI:** I own all current and future User Experience (UX) across all HARMAN brands and divisions, from automotive to consumer to professional audio. I founded and lead the corporate *Future Experience (FX) Team*, which does top-down vision driven R&D and prototyping and is the most forward looking team in all of HARMAN. I also founded and lead the corporate *Artificial Intelligence Team*, which evangelizes best AI practices and creates machine learning frameworks for all of HARMAN. I initiate projects, hire, patent, and interface with all R&D and product groups. We come up with radically new concepts, systems, services, and products, explore synergies and new areas, and follow up internally and externally (in particular with OEMs) to make sure they become reality. I report directly to the CTO of HARMAN.

**PALM/HP (WEBOS) (Jan 2011 - May 2012)**

**Sunnyvale, CA**

**Director of Future Concepts and Prototyping:** Lead, managed, and inspired teams of end-to-end prototyping and research engineers (hardware & software), UI prototyping engineers, and UI production developers in the webOS Human Interface group. Created working systems of future interaction methods, filed for patents, and contributed to strategic roadmaps. Projects were in the fields of wand and pen input, mobile 3D interfaces, remote multi-touch interfaces, and more.

**SAMSUNG ADVANCED INSTITUTE OF TECHNOLOGY (Oct 2005 - Dec 2010)**

**San Jose, CA**

**Principal Engineer and Project Leader:** Initiated and managed HCI research projects that will significantly influence future generations of consumer products. Lead the HCI team and envision, design, and develop fundamentally novel user interface concepts, based on original research in the domains of ubiquitous computing, mobile communication, artificial intelligence, robotics, virtual worlds, and augmented reality. Created working prototypes, filed for patents, transferred the technology. Provided Samsung researchers worldwide with novel HCI visions, concepts, and intellectual property.

**M.I.T. MEDIA LABORATORY (Sep 1997 – Jun 2005)**

**Cambridge, MA**

**Research Assistant:** Lead researcher for ten research projects in speech interfaces and mobile communication, conversational and communication agents, wearable computing, embodied agents and animatronics, wireless sensor networks, tangible interfaces, and more. Supervised undergraduate researchers (software, robotics, circuit design). Journal & conference publications. 100+ presentations for and frequent interactions with the 150 Media Lab corporate sponsors (US & international.) Invited to present work at leading international telecom and mobile communication conferences. Designed & installed multi-year long interactive art exhibits.

**IBM TOKYO RESEARCH LAB (2000)**

**Tokyo, Japan**

**Consulting Engineer:** Project lead in two-month technology transfer of IBM proprietary agent software to the public domain.

**INTERNATIONAL DATA CORPORATION (IDC) (1995)**

**Switzerland**

**Consulting Psychologist:** Project lead of a three-month impact study on corporate communication networks.

**SWISS NATIONAL TELEVISION (1996 – 1997)**

**Zürich, Switzerland**

**Senior Staff Video Editor:** Responsible for editing a broad range of nationally broadcasted programs such as sports events, news, documentaries, and advertisement. Part of an elite and competitive pool of video engineers, trained on site to the specific postproduction needs of the only Swiss National broadcaster.

**CULTURE & CONGRESS CENTER AARAU (1996)**

**Aarau, Switzerland**

**Director of Technology:** Responsible for setting up and maintaining all audio-visual technology of a large event space, consisting of 7 auditoriums, hosting audiences of up to 800. Responsible for audio, video, and light engineering for concerts, theater plays, trade shows, congresses, conferences, seminars. Leading staff of twenty audio and light engineers, maintenance and cleaning personnel.

**SHOW-TEC CONSULTING (1987 – 1996)**

**Europe**

**Founder, CEO, Media Engineer:** Producer, audio and video engineer for sound recording studios. Live sound engineer for large-scale events. Director of Technology for concerts and international tours (Germany, Netherlands, France, Switzerland, England, Austria, Italy). Engineering for wider range of video & film productions. Customers ranged from international artists to large multinational companies in the domains of finance, energy, and entertainment.

**Education**

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

**Cambridge, MA**

**Doctor of Philosophy in Media Arts and Sciences, June 2005**

**Thesis:** *Autonomous Interactive Intermediaries: Social Intelligence for Mobile Communication Agents* (Thesis advisors Prof. Chris Schmandt, Cynthia Breazeal, Henry Lieberman). Theory and implementation of a context-aware computer-mediated call control system that acts on input from caller, callee, and co-located people. The Intermediary is a dual conversational agent that can converse with both user and caller simultaneously. It is embodied in a wireless animatronics device and uses human-style non-verbal cues to get attention. It is aware of the user's conversational status querying its own RF sensor network. It solicits input from the participants of a face-to-face conversation using wirelessly actuated finger rings.

**Coursework (GPA 5.0/5.0):** Commonsense Reasoning for Interactive Applications, Embodied Intelligence (Rodney Brooks), The Society of Mind (Marvin Minsky), How To Make Almost Anything (Neil Gershenfeld), Tangible User Interfaces (Hiroshi Ishii), Multilingual Computing, Systems & Self (Mitch Resnik, Sherry Turkle), Conversational Computer Systems, and many more.

**Master of Science in Media Arts and Sciences, September 1999**

**Thesis:** *Active Messenger: Email Filtering and Mobile Delivery.*

**UNIVERSITY OF BERN**

**Bern, Switzerland**

**Master's Degree (Lizenziat) in Psychology, Computer Science & Philosophy, 1993**

**Thesis:** *Psychological Impact of Communication Technologies on Users* (Thesis advisors Prof. Dr. Alfred Lang and Dr. Urs Fuhrer).

**Coursework domains:** Usability, Human Factors, Human-Computer Interaction, Environmental and Ecological Psychology, Social Psychology, Psychological Aspects of Music, Processes of Creative Design.

## Skills

**Innovation Team Leader:** 12 years of experience as founder and manager of corporate innovation teams. I founded and lead multiple highly successful innovation and skunk works teams, including the *Future Experience Team (FX Team)* at HARMAN/Samsung, the *Future Concepts and Prototyping Team* at HP/Palm, the *HCI Innovation Team* at the Samsung Computer Science Lab at SISA. These cross-functional, high-performing teams are designed to be vision driven, but generate large amounts of high quality patents and prototypes to exemplify a migration path from the status quo to our future visions. The teams consist of engineering generalists, inventors, and domain experts (a majority with PhD degrees) who are intent on making “a dent in the universe,” focusing on highest-impact projects.

**Human Computer Interaction (HCI) research:** 20 years of experience as an international HCI researcher, working on all levels of Interaction Design and HCI: from theories (social and cognitive psychology, sociology, ethnography, HCI design), to prototypes (hardware, software, firmware, mechanical & electrical design), to conducting empirical studies (experimental design, statistical evaluation), to publishing the results, to filing patents; project management; management of team of researchers and engineers.

**Computer programming:** Extensive knowledge in PERL, C, C++, VB, Pascal, Lingo; XML, CGI, JavaScript, HTML. Working knowledge in Assembler, Java, Python.

**Computer hardware and networking:** Extensive experience with microcontrollers for wireless sensor networks and robotic control. Circuit board design and prototyping with sensors, actuators, wired and wireless transceivers for audio and data (Bluetooth, analog radio, etc.). Interfacing analog and digital systems. TCP/IP networking (data and VoIP, wired and 802.11), two-way pager networks.

**Operating systems and applications:** Experience with all Windows OS, UNIX/Linux; 3D and 2D modeling (Rhino, Truespace4, Corel Draw, Photoshop).

**Micro modeling & mechanical design:** Expert in designing and building R/C micro systems, with special focus on small animatronics and hovering robotics platforms.

**Rapid prototyping:** Experienced with laser cutting (Universal X-600), 3D printing (Stratasys FDM2000), CNC milling, composite materials (Kevlar, carbon & glass fiber).

**Audio engineering:** 10 years of experience as a professional live audio mixer in large venues (audiences of 3000+). Responsible for studio recordings of 30+ albums. Extensive experience with virtually any existing live audio mixing console (Yamaha, Soundtracs, Soundcraft, Mackie, Tascam, etc) and outboard equipment (FX processors, dynamics processors, filtering)

**Video engineering:** 5-year experience as a professional video editor. Experienced with many analog editing suites (e.g., Betacam SP/Digibeta, Ampex VPR3 1"), hybrid video editing (e.g., Fast Videomachine), and digital editing (Media 100, Premiere, Final Cut Pro).

**Exhibitions** **Ars Electronica Center** (Aug 2004 – Aug 2006), Linz, Austria: “I/O Brush” commissioned for the *Ars Electronica Center*. The initial one-year contract was extended to a two-year contract based on the exhibition’s great success. Project together with Kimiko Ryokai.

## Publications

**Journal Publications:**

- Schmandt, C. & Marti, S. (2005). **Active Messenger: Email Filtering and Delivery in a Heterogeneous Network**. In *Human-Computer Interaction Journal (HCI)*, 2005, Vol. 20, No. 1&2, 2005.
- Schmandt, C., Marmasse, N., Marti, S., Sawhney, N., & Wheeler, S. (2000). **Everywhere Messaging**. *IBM Systems Journal*, Vol. 39, No. 3&4, 2000.

## Conference Proceedings:

- Marti, S. (2016). **“Kognitive Belastung des Fahrers Messung der Gefahr anhand der Pupillenveränderung”** *Invited paper for ATZ elektronik*, June 2016, Volume 11,

- Issue 3, pp 36–41 [\[link\]](#)
- Marti, S., Rao, R., Park, I.P. (2015). **Advances to In-Car Human Machine Interface Systems**. In proceedings of *Symposium Vehicle Displays and Trends*, SID Display Week, May 31-June 5, 2015 San Jose/CA [\[link\]](#).
  - Kim, S.W., Marti, S. (2012). **Ghost Fingers: A Hybrid Approach to the Interaction with Remote Displays**. In Extended Abstracts of *ACM conference on Human Factors in Computing Systems (CHI '12)*, Austin/TX.
  - Treskunov, A., Kim, S.W., Marti, S. (2011). **Range Camera for Simple behind Display Interaction**. In MVA 2011 IAPR Conference on Machine Vision Applications, June 13-15, 2011, Nara, Japan, 160-163.
  - Kim, S.W., Treskunov, A., Marti, S. (2011). **DRIVE: Directly Reaching Into Virtual Environment with Bare Hand Manipulation Behind Mobile Display**. In IEEE Symposium on 3D User Interfaces 2011, 19-20 March, Singapore [Poster], 107 – 108.
  - Ryokai, K., Marti, S., Ishii, H. (2007). **I/O Brush: Beyond Static Collages**. In Extended Abstracts of *ACM conference on Human Factors in Computing Systems (CHI '07)*, San Jose/CA, 2007.
  - Marti, S. & Schmandt, C. (2005). **Physical Embodiments for Mobile Communication Agents**. In Proceedings of *UIST 2005*, Seattle/WA, 2005.
  - Marti, S. & Schmandt, C. (2005). **Giving the Caller the Finger: Collaborative Responsibility for Cellphone Interruptions**. In Proceedings of *ACM conference on Human Factors in Computing Systems (CHI '05)*, Portland/OR, 2005.
  - Ryokai, K., Marti, S., & Ishii, H. (2005). **Designing "The World as your Palette."** Design Expo of the *ACM conference on Human Factors in Computing Systems (CHI '05)*, Portland/OR, 2005.
  - Marti, S. (2004). **Autonomous Interactive Intermediaries: Social Intelligence for Mobile Communication Agents**. In Doctoral Colloquium Companion Booklet of *ACM conference on Computer supported Cooperative Work (CSCW '04)*, Chicago, 2004.
  - Ryokai, K., Marti, S., & Ishii, H. (2004). **I/O Brush: Drawing with Everyday Objects as Ink**. In Proceedings of *ACM conference on Human Factors in Computing Systems (CHI '04)*, Vienna/Austria, 2004.

**Patents  
(U.S.,  
granted)**

1. System And Method For Selection Of An Object Of Interest During Physical Browsing By Finger Pointing And Snapping (United States Patent [7,885,145](#), February 8, 2011)
2. System And Method For Selection Of An Object Of Interest During Physical Browsing By Finger Framing (United States Patent [8,073,198](#), December 6, 2011)
3. System And Method For Automatic Image Capture In A Handheld Camera With A Multiple-Axis Actuating Mechanism (United States Patent [8,089,518](#), January 3, 2012)
4. Methods And Apparatus For Autonomously Managing Communications Using An Intelligent Intermediary (United States Patent [8,121,653](#), February 21, 2012)
5. System And Method For Moving Object Selection In A Handheld Image Capture Device (United States Patent [8,125,512](#), February 28, 2012)
6. Animatronic Creatures That Act As Intermediaries Between Human Users And A Telephone System (United States Patent [8,135,128](#), Mar 13, 2012)
7. Spatially Correlated Rendering Of Three-Dimensional Content On Display Components Having Arbitrary Positions (United States Patent [8,253,649](#), August 28, 2012)
8. Egomotion Speed Estimation On A Mobile Device (United States Patent [8,253,795](#), August 28, 2012)
9. Detecting Ego-Motion On A Mobile Device Displaying Three-Dimensional Content (United States Patent [8,310,537](#), November 13, 2012)
10. Egomotion Speed Estimation On A Mobile Device Using A Single imager (United States Patent [8,456,524](#), June 4, 2013)
11. Rendition Of 3D Content On A Handheld Device (United States Patent [8,937,592](#),

- January 20, 2015)
12. Processing Image Input To Communicate A Command To A Remote Display Device (United States Patent [8,994,650](#), March 31, 2015)
  13. Determining Motion Of Projection Device (United States Patent [9,033,516](#), May 19, 2015)
  14. Three-Dimensional Object Model Determination Using A Beacon (United States Patent [9,292,963](#), March 22, 2016)
  15. Detecting Visual Inattention Based On Eye Convergence (United States Patent [9,298,994](#), Mar 29, 2016)
  16. Eye Gaze Enabled Navigation System (United States Patent [9,354,073](#), May 31, 2016)
  17. Enabling Instant Handwritten Input On Mobile Computing Devices (United States Patent [9,395,800](#), July 19, 2016)
  18. Earplug For Selectively Providing Sound To A User (United States Patent [9,414,964](#), August 16, 2016)
  19. Dynamic Text Input Method Using On And Above Surface Sensing Of Hands And Fingers (United States Patent [9,430,145](#), August 30, 2016)
  20. Using External Sounds To Alert Vehicle Occupants Of External Events And Mask In-Car Conversations (United States Patent [9,469,247](#), October 18, 2016)
  21. Roadway Projection System (United States Patent [9,481,287](#), November 11, 2016)
  22. Pen-Based Content Transfer System And Method Thereof (United States Patent [9,265,074](#), February 16, 2016)
  23. Wearable Loudspeaker (United States Patent [D773433](#), December 6, 2016)
  24. Low Power Integrated Circuit To Analyze A Digitized Audio Stream (United States Patent [9,564,131](#), February 7, 2017)
  25. Spatial Sonification Of Accelerating Objects (United States Patent [9,573,523](#), February 21, 2017)
  26. Generation Of A Combined Image Of A Presentation Surface (United States Patent [9,591,149](#), March 7, 2017)
  27. Directional Sound Modification (United States Patent [9,622,013](#), April 11, 2017)
  28. Haptic Language Through A Steering Mechanism (United States Patent [9,623,907](#), April 18, 2017)
  29. Determining Motion Of Projection Device (United States Patent [9,638,989](#), May 2, 2017)
  30. Modifying An Audio Panorama To Indicate The Presence Of Danger Or Other Events Of Interest (United States Patent [9,663,031](#), May 30, 2017)
  31. System And Method For User Controllable Auditory Environment Customization (United States Patent [9,716,939](#), July 25, 2017)
  32. User-Directed Personal Information Assistant (United States Patent [9,720,510](#), August 1, 2017)
  33. Multitouch Chording Language (United States Patent [9,720,591](#), August 1, 2017)
  34. System And Method For Audio Augmented Reality (United States Patent [9,727,129](#), August 8, 2017)
  35. Virtual See-Through Instrument Cluster With Live Video (United States Patent [9,756,319](#), September 5, 2017)
  36. Eye-Gaze Enabled Navigation System (United States Patent [9,791,286](#), October 17, 2017)
  37. Automatic Identification And Localization Of Wireless Light Emitting Elements (United States Patent [9,795,015](#), October 17, 2017)
  38. Technique For Adjusting The Posture Of A Seated Person (United States Patent [9,808,084](#), November 7, 2017)
  39. Techniques For Transmitting An Alert Towards A Target Area (United States Patent [9,809,163](#), November 7, 2017)
  40. Do-Not-Disturb System And Apparatus (United States Patent [9,811,991](#), November 7, 2017)

41. Techniques For Dynamically Changing Tactile Surfaces Of A Haptic Controller To Convey Interactive System Information (United States Patent [9,836,124](#), December 5, 2017)
42. Proximity Based Temporary Audio Sharing (United States Patent [9,864,570](#), January 9, 2018)
43. Using External Sounds To Alert Vehicle Occupants Of External Events And Mask In-Car Conversations (United States Patent [9,870,764](#), January 16, 2018)
44. Providing A Log Of Events To An Isolated User (United States Patent [9,876,985](#), January 23, 2018)
45. Feedback By Modifying Stiffness (United States Patent [9,937,839](#), April 10, 2018)
46. Headphones With Thermal Control (United States Patent [9,942,647](#), April 10, 2018)
47. Pedestrian Information System (United States Patent [9,947,215](#), April 17, 2018)
48. Eye Vergence Detection On A Display (United States Patent [9,952,665](#), April 24, 2018)
49. Fan-Driven Force Device (United States Patent [9,984,540](#), May 29, 2018)
50. Force Measuring Steering Wheel (United States Patent [9,994,231](#), June 12, 2018)
51. Steering Wheel Control System (United States Patent allowed)
52. Shape-Changing Surface (United States Patent allowed)
53. Virtual Three-Dimensional Instrument Cluster With Three-Dimensional Navigation System (United States Patent allowed)
54. In-Vehicle Gesture Interactive Spatial Audio System (United States Patent allowed)
55. Adaptive Interactive Voice System (United States Patent allowed)
56. Techniques For Autonomously Calibrating An Audio System (United States Patent allowed)

#### Invited Talks

- **SID Display Week 2015** (June 5, 2015) San Jose, CA  
Talk "Advances to In-Car Human Machine Interface Systems"
- **Harman 2014 Business & Technology Conference** (Jan 21, 2014) Palm Desert, CA  
Talk "Future Experience @Harman"
- **Samsung Advanced Institute of Technology** (November 18, 2009) Suwon (Korea)  
SAIT Forum talk "Affective and Immersive Interaction: Two approaches to advance Human-Computer Interaction"
- **Palo Alto Research Center PARC** (March 2, 2006) Palo Alto, CA  
Talk "Cellular Squirrel"
- **Samsung Advanced Institute of Technology** (December 15, 2005) Seoul (Korea)  
Talk "User Interface Innovations: Cellular Squirrel"
- **Siemens Technology-To-Business Center** (September 14, 2005) Berkeley, CA  
Talk "The Commercial Potential of the Cellular Squirrel"
- **Samsung Information Systems of America** (August 11, 2005) San Jose, CA  
Talk "Autonomous Interactive Intermediaries"
- **France Telecom R&D Boston** (July 11, 2005) Cambridge, MA  
Talk "The Next Generation of Mobile Communication"
- **Motorola Research Labs** (June 22, 2005) Schaumburg, IL  
Talk "Social Intelligence of Mobile Communication Agents"
- **Accenture Technology Labs** (May 11, 2005) Palo Alto, CA  
Talk "Cellular Squirrel and A.I.I."
- **Intel Research Berkeley** (April 27, 2005) Berkeley, CA  
Talk "The Cellular Squirrel"
- **3GSM Congress** (February 14-17, 2005) Cannes (France)  
Weeklong presentations and demonstrations of my doctoral work
- **M.I.T. Media Lab** (1997-2005) Cambridge, MA  
More than 150 presentations and talks on my research
- **Federal Institute of Technology (ETH)** (May 29, 2002) Zürich (Switzerland)  
Panel "Security in the Net: Big Brother Is Watching and Protecting You"

**Media, TV &  
Press  
(selected)**

- **AT&T Labs** (January 28, 1999) Red Bank, NJ  
Talk "Active Messenger: Email Filtering and Mobile Delivery"
- Convention of **SwissICT** (former SVD) (November 15, 1994) Zürich (Switzerland)  
Talk "The Strange Effects of Telecommunication on Human Beings"
- **ExtremeTech** (blog): "Harman, Ultrahaptics team up for mid-air haptic feedback" (HARMAN FX team project), February 21, 2017, <https://www.extremetech.com/extreme/244660-harman-ultrahaptics-team-mid-air-haptic-feedback>
- **ECN Mag**: "Mid-Air Haptic Feedback Will Be Integrated Into Connected Car" (HARMAN FX team project), February 22, 2017, <https://www.ecnmag.com/blog/2017/02/mid-air-haptic-feedback-will-be-integrated-connected-cars>
- **Automotive News** (blog): "Diversification eases suppliers' R&D burden" (mentions HARMAN FX team's What-Is-That system), September 26, 2016, <http://www.autonews.com/article/20160926/OEM06/309269955/diversification-eases-suppliers-rd-burden>
- **Engadget** (blog): "JBL's Everest Elite cans let you hear actual reality in VR" (HARMAN FX team project), September 13, 2016, <https://www.engadget.com/2016/09/13/jbls-everest-elite-cans-let-you-hear-actual-reality-in-vr/>
- **CTIA Industry News**: "Congrats to the 10th Annual E-Tech Award Winners: Pupil-Based Driver Monitoring System is 2nd place in Connected Life (Car, Transportation, Home, Wearables, Health)", September 8, 2016, <https://www.ctia.org/industry-data/blog-details/blog-posts/emerging-tech-award-winners>
- **The Verge** (blog): "Touchless haptic feedback completely freaked me out at CES" (HARMAN FX team project), January 8, 2016, <https://www.theverge.com/2016/1/8/10738792/harman-touchless-ultrasonic-haptic-feedback-ces-2016>
- **Elektronik automotive** (German magazine): "Pupillen-basiertes Fahrerüberwachungssystem erfasst kognitive Belastung" (HARMAN FX team project), January 3, 2016, <http://www.elektroniknet.de/elektronik-automotive/assistentensysteme/pupillen-basiertes-fahrerueberwachungssystem-erfasst-kognitive-belastung-128019.html>
- **Elektronik automotive** (German magazine): "So werden sich HMIs im Auto weiterentwickeln" January 2015
- **SIGNature** bluetooth.org (quarterly magazine): "In a NutCell" April, 2007, <http://www.nxtbook.com/nxtbooks/bluetooth/signatureq207/index.php?startpage=46>
- **Financial Times Germany** (German daily newspaper): "Hörpuschel: Handy-Eichhörnchen" (cellphone squirrel) April 28, 2006
- **Boston Business Journal** (US daily newspaper): "Inspecting gadgets: Gizmos that developers hope will be the next must-have tech contraptions" April 28, 2006, <http://boston.bizjournals.com/boston/stories/2006/05/01/focus1.html>
- **I-Droid** (Italian monthly magazine): "F.A.C.E., La Spia Discreta" January 2006
- **International Telecommunication Union ITU News magazine** (English/French/Spanish monthly publication): "How annoying is your phone?" December 2005, <http://www.itu.int/itunews/manager/display.asp?lang=en&year=2005&issue=10&ipage=technology&ext=html>
- **The New York Times Magazine** (US weekly magazine): "The Year in Ideas: Consensual Interruptions" December 11, 2005, <http://www.nytimes.com/2005/12/11/magazine/11ideas1-10.html>
- **YouTube.com** I/O Brush video becomes the *most watched Youtube video on October 7, 2005*, and goes viral (estimated 1.2 million viewings so far) <http://www.i4u.com/article4344.html>
- **The Age** (Australian daily newspaper): "Screen all my calls" October 1, 2005, <http://www.theage.com.au/news/icon/screen-all-my-calls/2005/09/27/1127804480665.html>
- **PC Chip Croatia** (Croatian monthly magazine): "Animatronička vjeverica" September 2005
- **Kölner Stadtanzeiger** (German daily newspaper): "Sekretärin mit viel Pelz" (Secretary with lots of fur) September 29, 2005, <http://www.ksta.de/html/artikel/1125645192032.shtml>



- **BBC News World Edition.** "Magic brush paints visual world" September 15, 2005, <http://news.bbc.co.uk/2/hi/technology/4184160.stm>
- **Technology Review** (US monthly magazine): "Executive Squirrel" August 2005, <http://www.technologyreview.com/Infotech/14672/page2/>
- **BBC News:** "Squirrel helps with mobile calls" August 26, 2005, <http://news.bbc.co.uk/2/hi/technology/4749507.stm>  
Hundreds of follow-up articles in international online publications such as BBC Persian Online (Persian), BBC Arabic Online (Arabic), breedband.telenet.be (Belgium), aftonbladet.se (Swedish), BBC News Online (Spanish), metafilter.com, giornaletecnologico.it (Italian), dk.compulenta.ru (Russian), computerra.ru (Russian), idg.se (Swedish), omni.lt (Lithuanian), blueyonder.co.uk (British)
- **The Toronto Star** (Canadian daily newspaper): "A PhD student fights the rudeness of cellphones" July 24, 2005, <http://pqasb.pqarchiver.com/thestar/access/871439201.html?dids=871439201:871439201&FMT=ABS>
- **Mobileburn.com:** "Cellular Squirrel, a robot that screens your calls" July 15, 2005, <http://www.mobileburn.com/news.jsp?id=1519>  
Hundreds of follow-up articles online publications (big fraction non-english): Blueserker.com, Gearlive.com, Pierro.org (French), De-bug.de (German), mizusawa.cocolog-nifty.com (Japanese), geek.com, jy.lv (Latvian), jolt.co.uk, techdigest.tv, shinyshiny.tv, gizmodo.com, 4rthur.com, pazar cuccok (Hungarian), membrana.ru (Russian), brunodelfrate (Italian), ferket.com (Dutch), bug.hr (Croatian), smooth.blogs.com (French), nfsa.us, core.org.au, tecnologia.tiscali.it (Italian), nrg.co.il (Hebrew), mytech.it (Italian), webpanel.ru (Russian), liberoblog (Italian)
- **BusinessWeek.** I/O Brush IDEA Awards Gold 2005. July 4, 2005, <http://images.businessweek.com/ss/05/06/idea2005/source/139.htm>
- **FRAMES** (US monthly publication): "Cellular Squirrel" May/June 2005, <http://frames.media.mit.edu/frames.nsf/a0da1d86e6b0ba5185256d200052a6f07f207b902079250b8525703500646924?OpenDocument>
- **Discovery News.** Virtual Brush Captures 'Paint' from Real Life. May 27, 2005, <http://web.archive.org/web/20061007144848/http://dsc.discovery.com/news/briefs/20050523/paintbrush.html>
- **Engadget.com:** "Switched On: The Blossoming of Bluetooth" March 16, 2005, <http://www.engadget.com/2005/03/16/switched-on-the-blossoming-of-bluetooth/>
- **Discovery Channel Canada.** Painting with a new palette. January 25, 2005, <http://web.archive.org/web/20050315212622/http://www.exn.ca/dailyplanet/story.asp?id=2005012654>
- **The New York Times** (US daily newspaper): "Block That Ringtone!" April 8, 2004, <http://query.nytimes.com/gst/fullpage.html?res=9C07E6D71438F93BA35757C0A9629C8B63&sec=&spon=&pagewanted=2>
- **K-Spezial** (Swiss weekly magazine): "Computer werden merken, ob der Anwender nervös ist" (Computers will notice nervous users) April 30, 2003, <http://www.saldo.ch/themen/beitrag/1017529/>
- **Futur(es)** (Swiss monthly magazine): "Stefan Marti et ses puce volante", "Stefan Marti, un chercheur génial" (Stefan Marti and his flying saucers; Stefan Marti, a genius researcher) January 2001
- **Swiss Television** (Swiss national TV): "Superreich oder Pleite - Schweizer Jungunternehmer im Internet" (documentary) January 11, 2001
- **Basler Zeitung** (Swiss daily newspaper): "Wie sich die beiden Giganten Harvard und MIT belauern" (How the giants from Harvard and MIT compete) January 2, 2001
- **L'AGEFI** (Swiss monthly magazine): "Au célèbre Medialab du MIT, les professeurs Nimbus sont plus valorisés que les tenants du chercheur utile" October 26, 2000
- **Swiss Television** (Swiss national TV): "MTW" (documentary) October 5, 2000
- **Tribune de Genève** (Swiss daily newspaper): "Le punk d'Olten réinvente sa vie au Media Lab du MIT" (The punk from Olten re-invents himself at the M.I.T. Media

Laboratory) October 18, 1999

- **PCtip** (Swiss weekly magazine): "Zukunftslabor: Gute Connections und mehr Grips" (Future lab: savvy with good connections) November 1998

#### **Honors & Awards**

- **Gold Award, Industrial Design Society of America** (2005) Industrial Design Excellence
- **Motorola fellow** (1999 - 2000)
- **AT&T fellow** (1998 - 1999)
- **Fellowship for Research Assistantship** from the M.I.T. Media Lab Speech Interface Group (1997 - 2005)
- **Recognition Award for Contributions to the Organization of Samsung Information Systems of America** (January 2010)

#### **Leadership**

- Founder and leader of the Corporate *AI Team* at HARMAN (December 2017– present)
- Founder and leader of the *Future Experience Team (FX Team)* at HARMAN (June 2012 – present)
- Founder and director of the *Future Concepts and Prototyping Team* at Palm/HP (January 2011 – May 2012)
- Manager of the UI Production team at Palm/HP (January – July 2011)
- Founder and leader of the *HCI Innovation Team* of the Computer Science Lab (CSL) at Samsung R&D Center Silicon Valley (August 2008 – December 2010)
- On advisory board of the *Swiss House for Advanced Research and Education* (SHARE), Cambridge. SHARE is the Swiss consulate in Boston, and a joint operation of the State Secretariat for Education and Research and the Swiss Federal Department of Foreign Affairs (2000 - 2002)
- M.I.T. Media Lab Student Committee (2001 – 2005)

#### **Team members hired**

- Neeka Mansourian (HARMAN 2017 – present)
- Dr. Sven Kratz (HARMAN 2017 – present)
- Joey Verbeke (HARMAN 2016 – present)
- Dr. Adam Boulanger (HARMAN 2016 – present)
- Dr. Mirjana Spasojevic (HARMAN 2014-2015; now VP Immersive Experiences at HP)
- Jamie Elliot Nahman (HARMAN 2013-2015, now at GE Digital)
- Davide Di Censo (HP/Palm 2011-2012, HARMAN 2012-2017)
- Dr. Anton Treskunov (Samsung 2009-2010; now at Google ATAP)
- Dr. Seung Wook Kim (Samsung 2008-2011, HP/Palm 2011-2011; now at Apple)
- Dr. Francisco Imai (Samsung 2008-2009; now Director at Canon)

#### **Students and Interns supervised**

- Mingwen (Ming) Dong (2018, HARMAN intern, from Rutgers University)
- Srinath Ramachandran (2018, HARMAN intern, from Rochester Institute of Technology)
- Yumei (May) Ye (2018, HARMAN intern, from University of Michigan)
- Mohammadali (Ashkan) Moezzi (2018, HARMAN intern, from Academy of Art University San Francisco)
- Brett Leibowitz (2018, HARMAN intern, from Cornell University)
- Hilgad Montelo Da Silva (2018, HARMAN intern, from University of Texas at Austin)
- Dylan Moore (2017, HARMAN intern from Stanford University)
- Sattwik Basu (2017, HARMAN intern from University of Rochester)
- Pruthviraj "Raj" Narayanaswamy (2017, HARMAN intern from Indiana University–Purdue University Indianapolis)
- Tomoki Eto (2017, HARMAN intern from Stanford University)
- Abhishek Gaur (2016, HARMAN intern from Boston University)
- Sambit Pradhan (2016, HARMAN intern)
- Sohan Bangaru (2016, HARMAN intern from Arizona State University)

- Tanay Choudhary (2016, HARMAN intern from Northwestern University)
- Aditya Gande (2015, HARMAN intern from UC Berkeley)
- Manasvi Lalwani (2015, HARMAN intern from Georgia Tech)
- Michael (Sheng) Guo (2015, HARMAN intern from U of Illinois at Urbana-Champaign)
- Mitchell (Xiang) Xiao (2015, HARMAN intern from University of Pittsburgh)
- Raymond (Yanyang) Xia (2015, HARMAN intern from CMU)
- Alex Ju (2014-2015, HARMAN intern from RISD)
- Ji Won Jun (2014, HARMAN intern from Art Center College of Design)
- Joey Verbeke (2014-2015, HARMAN intern from University of Colorado Denver)
- Prathik Prakash (2014, HARMAN intern from University of Pennsylvania)
- Amin Kheradmand (2014, HARMAN intern from UC Santa Cruz)
- Timothy Coleman (2013-2014, HARMAN intern)
- Nachiket Gokhale (2010, Samsung intern from University of Minnesota)
- Han Joo Chae (2009, Samsung intern from CMU)
- Robert Figueiredo (2005, M.I.T. Media Lab undergrad intern)
- Joshua Monzon (2005, M.I.T. Media Lab undergrad intern)
- Matt Hofman (2003-2005, M.I.T. Media Lab undergrad intern)
- Mark Newman (2003, M.I.T. Media Lab undergrad intern)
- Jonathan Harris (2002-2003, M.I.T. Media Lab undergrad intern)
- Quinn Mahoney (2002-2003, M.I.T. Media Lab undergrad intern)

**Professional Associations**

- Association for Computing Machinery (ACM)
- Institute of Electrical and Electronics Engineers (IEEE), Communications Society and Computer Society
- Association for the Advancement of Artificial Intelligence (AAAI)
- Audio Engineering Society (AES)
- ACM's Special Interest Group on Computer-Human Interaction (SIGCHI)
- San Francisco Bay Area Chapter of ACM SIGCHI (BayCHI)
- World Future Society (WFS)
- Society for Information Display (SID)

**Community Services (reviewer)**

- ACM Conference on Human Factors in Computing Systems (CHI) 2006-2014
- ACM Conference on Computer Supporter Cooperative Work (CSCW) 2006, 2008
- Graphics Interface 2006 (GI) 2006
- ACM Symposium on User Interface Software and Technology (UIST) 2005, 2007, 2010
- Annual IEEE International Symposium on Wearable Computers (ISWC) 2004
- International Conference on Ubiquitous Computing (UbiComp) 2003, 2007, 2015
- Tangible and Embedded interaction (TEI) 2009, 2010
- ACM Conference on Intelligent User Interfaces (IUI) 2010, 2012, 2013
- ACM Nordic Conference on Human-Computer Interaction (NordiCHI) 2010
- ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI) 2012

**Professional Travels**

Australia (2009), Austria (2004), Canada (1998, 2004), China (2012-2018), France (1982, 1985, 1987, 1992, 1996, 1998, 2005, 2011), Germany (1980-1997, 2007, 2012-2015), Greece (1989), India (2014), Indonesia (1989), Italy (1993, 1995), Japan (1999, 2000, 2002, 2003, 2004, 2006, 2010), South Korea (2005-2010), Malaysia (1989), Netherlands (1993), Singapore (1989), Spain (1985, 1993, 2007), Sri Lanka (1989), Thailand (1989), United Kingdom (1981–1997, 2005-2007, 2014), United States (1996-2018)

**Language Skills**

- Fluent: German, English, French, Swiss German (native)
- Understand: Italian, Spanish, Latin; basic Japanese

**Immigration** Permanent Resident of the U.S.A.  
**Status**

July 28, 2018