

Gabe A. Cohn, Ph.D.

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RESEARCH STATEMENT

My current work at Microsoft Research focuses on improving the speed, accuracy, cost, and usability of large-scale genomics processing in the cloud. Previously, I worked on innovative sensing systems for novel cardiovascular medical devices. Much of my past research has focused on (1) designing and implementing ultra-low-power embedded sensing systems, (2) leveraging physical phenomena to enable new sensing modalities, and (3) developing sensor systems targeted at realizing immediate change in high-impact application domains including healthcare. My work focused on building highly integrated hardware/software sensing systems using my expertise in embedded systems, low-energy hardware design, sensing, communications, signal processing, and machine learning.

EDUCATION

2014 Doctor of Philosophy, Electrical Engineering

University of Washington, Seattle, WA

Area: Ubiquitous Computing, Sensing, Embedded Systems, Circuits, Human-Computer Interaction, VLSI

Advisor: Shwetak N. Patel

Thesis Title: SNUPI: Sensor Network Utilizing Powerline Infrastructure

September 2009 – June 2014

2009 Bachelor of Science Electrical Engineering with Honor

California Institute of Technology, Pasadena, CA Area: Embedded Systems, Digital Circuits, VLSI

GPA: 3.8/4.0

September 2005 – June 2009

2005 High School Diploma

Skyline High School, Sammamish, WA

GPA: 4.0/4.0 (Valedictorian) September 2001 – June 2005

HONORS AND AWARDS

2013 UW EE Yang Award for Outstanding Graduate Student

2012 Best Paper Award at UbiComp 2012 for Static Electric Field Sensing Paper [C.8]

Invited to 2012 Microsoft Research Faculty Summit (as a student)

UW EE Yang Award Nomination for Outstanding Graduate Student

Honorable Mention Award at CHI 2012 for Humantenna [C.7]

Microsoft Research PhD Fellowship

2011 Top Research Prize from Madrona Venture Group

UW EE Yang Award Nomination for Outstanding Graduate Student Best Paper Award at CHI 2011 for Your Noise is My Command [C.6]

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Best Note Award at CHI 2011 for InGen [C.5]

Honorable Mention Award at CHI 2011 for HeatWave [C.4]

2010 Runner-Up for the Top Research Prize from Madrona Venture Group

Best Paper Nomination at UbiComp 2010 for SNUPI [C.2]

National Science Foundation Graduate Research Fellowship

2009 Top Research Prize from Madrona Venture Group

IEEE Charles LeGeyt Fortescue Graduate Scholarship

University of Washington College of Engineering Gray Fellowship

University of Washington Computer Science & Engineering Research Assistantship

2008 Caltech Upper Class Merit Award

2005 Skyline High School Valedictorian

PROFESSIONAL EXPERIENCE

2014–Present Microsoft Research, Redmond, WA

Principal Researcher (2019-Present), Researcher (2014-2019)

2012–2014 **SNUPI Technologies**, Seattle, WA

Founder and Research & Development Consultant

Summer 2013 Microsoft Research, Computational User Experiences Group, Redmond, WA

Research Intern (Supervisor: Dr. Desney S. Tan)

Conducting research on continuous, non-invasive health sensing

2011 Microsoft Research, Computational User Experiences Group, Redmond, WA

Research Consultant (Supervisor: Dr. Desney S. Tan)

Conducting research using the human body as an antenna for gesture sensing [C.7]

Summer 2010 Microsoft Research, Computational User Experiences Group, Redmond, WA

Research Intern (Supervisor: Dr. Desney S. Tan)

Conducting research using the human body as an antenna for gesture sensing [C.6]

Summer 2008 Fulcrum Microsystems, ASIC Verification Group, Calabasas, CA

ASIC Verification Engineering Intern (Supervisor: Tom Geiger)

Writing a Java software model for a high-speed network router/switch for the purpose of hardware design verification.

Summer 2007 California Institute of Technology, RF and Microwave Group, Pasadena, CA

Research Assistant (Supervisors: Dr. Sander Weinreb and Dr. David Rutledge)

Creating CAD models of wideband dual-polarized quad-ridge horn antennas for wideband radio telescopes operating between 0.3 and 18 GHz. These feeds are used on the Goldstone Apple Valley Radio Telescope (GAVRT) and are

 $candidates\ for\ the\ Square\ Kilometer\ Array\ (SKA).$

2007 California Institute of Technology, Caltech Networking Lab, Pasadena, CA

Research Assistant (Supervisors: Dr. Lachlan Andrew and Dr. Steven Low)

Writing Python scripts to control the configurations of the network hardware used in WAN-in-Lab (WiL).

Summer 2006 University of Washington, Radar Remote Sensing Lab, Seattle, WA

Research Assistant (Supervisor: Dr. John D. Sahr)

Creating CAD models of discone and LPDA antenna arrays using NEC modeling software. Then I setup new hardware systems including the modeled arrays at two locations for a passive radar interferometer.

systems including the modeled arrays at two locations for a passive radar interferon

Summer 2005 University of Washington, Radar Remote Sensing Lab, Seattle, WA

Research Assistant (Supervisor: Dr. John D. Sahr)

Writing software for noise and signal splitting and a nonlinear least squares fitting (based on the Levenberg-Marquardt

Algorithm. The software is used to process cross-correlation data from a passive radar interferometer.

TEACHING

Instructor Hardware/Software Lab 2, UW TECHIN 515 (GIX)

Spring 2018

Advanced Digital Logic Design, UW CSE 467

Fall 2013 (IAS Scores (out of 5.0): Overall: 4.9, Combined: 4.9, Instructor's Contribution: 5.0, Teaching Effectiveness: 4.9)

Guest Lectures Microcontroller Basics, Phidgets, Arduino, and MSP430

Advanced Topics in Ubiquitous Computing, UW CSE 599U (Instructor: Shwetak Patel)

Winter 2012, Winter 2010, Fall 2010

Digital System Design (Hardware Capstone), UW CSE 477 (Instructor: Shwetak Patel)

Spring 2013

Printed Circuit Board Design

Digital System Design (Hardware Capstone), UW CSE 477 (Instructor: Shwetak Patel)

Spring 2013, Spring 2012, Spring 2011, Spring 2010

Advanced Topics in Ubiquitous Computing, UW CSE 599U (Instructor: Shwetak Patel) Spring 2013, Fall 2010

Teaching Assistant Embedded Systems Hardware Design Laboratory, Caltech EE/CS 52 (Instructor: Glen George)
Spring 2009, Spring 2008

Embedded Systems Software Design Laboratory, Caltech EE/CS 51 (Instructor: Glen George) Winter 2009, Winter 2008

Introduction to Embedded Systems, Caltech EE 5 (Instructor: Glen George) Fall 2008, Fall 2007

Grader Advanced Digital Systems Design, Caltech EE 119a (Instructor: Glen George)

Fall 2007

REFEREED CONFERENCE PUBLICATIONS¹

- 2017 [C.10] Grosse-Puppendahl, T., Holz, C., **Cohn, G.**, Wimmer, R., Bechtold, O., Hodges, S., Reynolds, M.S., Smith, J.R. Finding Common Ground: A Survey of Capacitive Sensing in Human-Computer Interaction. In the *Proceedings of CHI 2017* (May 6 11, Denver, CO), ACM, New York, 2017, pp. 3293–3315.

 [Acceptance Rate: 25% (600/2400)]
- 2013 [C.9] Chen, K., Cohn, G., Gupta, S., Patel, S.N. uTouch: Sensing Touch Gestures on Unmodified LCDs. In the *Proceedings of CHI 2013* (April 27 May 2, Paris, France), ACM, New York, 2013, pp. 2051–2054. [Acceptance Rate: 20% (392/1963)]
- 2012 [C.8] Cohn, G., Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. In the *Proceedings of Ubicomp 2012* (Sept. 5-8, Pittsburgh, PA), ACM, New York, 2012, pp. 99–102.

 Best Paper Award [Acceptance Rate: 19% (58/301)]
 - [C.7] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Humantenna: Using the Body as an Antenna for Real-Time Whole-Body Interaction. In the *Proceedings of CHI 2012* (May 5-10, Austin, TX), ACM, New York, 2012, pp. 1901–1910.

Honorable Mention Award [Acceptance Rate: 23% (370/1577)]

- 2011 [C.6] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Your Noise is My Command: Sensing Gestures Using the Body as an Antenna. In the *Proceedings of CHI 2011* (May 7-12, Vancouver, Canada), ACM, New York, 2011, pp. 791–800.
 - **Best Paper Award** [Acceptance Rate: 26% (400/1540)]
 - [C.5] Badshah, A., Gupta, S., Cohn, G., Villar, N., Hodges, S., Patel, S.N. Interactive Generator: A Self-Powered Haptic Feedback Device. In the *Proceedings of CHI 2011* (May 7-12, Vancouver, Canada), ACM, New York, 2011, pp. 2051–2054.
 Best Note Award [Acceptance Rate: 26% (400/1540)]
 - [C.4] Larson, E., **Cohn, G.**, Gupta, S., Ren, X., Harrison, B., Fox, D., Patel, S.N. HeatWave: Thermal Imaging for Surface User Interaction. In the *Proceedings of CHI 2011* (May 7-12, Vancouver, Canada), ACM, New York, 2011, pp. 2565–2574.

Honorable Mention Award [Acceptance Rate: 26% (400/1540)]

- 2010 [C.3] Campbell, T., Larson, E., Cohn, G., Froehlich, J., Alcaide, R., Patel, S.N. WATTR: A Method for Self-Powered Wireless Sensing for Water Activity in the Home. In the *Proceedings of UbiComp 2010* (Sept. 26-29, Copenhagen, Denmark), ACM, New York, 2010, pp. 169–172.

 [Acceptance Rate: 19% (39/202)]
 - [C.2] Cohn, G., Stuntebeck, E., Pandey, J., Otis, B., Abowd, G.D., Patel, S.N. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure. In the *Proceedings of UbiComp 2010* (Sept. 26-29, Copenhagen, Denmark), ACM, New York, 2010, pp. 159–168.
 Best Paper Nominee [Acceptance Rate: 19% (39/202)]

¹ My research is represented in the selectivity of the impact of ACM conference proceedings, see <u>Conference Paper</u>

Selectivity and Impact by Jilin Chen and Joseph Konstan.

[C.1] **Cohn, G.**, Gupta, S., Froehlich, J., Larson, E., and Patel, S.N. GasSense: Appliance-Level, Single-Point Sensing of Gas Activity in the Home. In the *Proceedings of Pervasive 2010* (May 17-20, Helsinki, Finland), Springer-Verlag, Heidelberg, 2010, pp. 265–282.

[Acceptance Rate: 16% (26/161)]

REFEREED JOURNAL AND MAGAZINE PUBLICATIONS

- 2022 [J.2] Mieloszyk, Rebecca, *et al.* A Comparison of Wearable Tonometry, Photoplethysmography, and Electrocardiography for Cuffless Measurement of Blood Pressure in an Ambulatory Setting. *IEEE Journal of Biomedical and Health Informatics*, 26(7), July 2022, pp. 2864–2875.
- 2011 [J.1] Froehlich, J., Larson, E., Gupta, S., Cohn, G., Reynolds, M.S., Patel, S.N. Disaggregated End-Use Energy for the Smart Grid. *IEEE Pervasive Computing, Special Issue on Smart Energy Systems*, 10(1), Jan-Mar 2011, pp. 28–39.

WORKSHOP PUBLICATIONS

2009 [W.1] Levin, I., Cohn, G.A., Ordeshook, P.C., Alvarez, R.M. Detecting Voter Fraud in an Electronic Voting Context: An Analysis of the Unlimited Reelection Vote in Venezuela. In the *Proceedings of 2009 Electronic Voting Technology Workshop/Workshop on Trustworthy Elections (EVT/WOTE '09)* (Aug. 10–11, Montreal, Canada), USENIX, 2009.

THESIS

2014 [D.1] **Cohn, G.A.** SNUPI: Sensor Network Utilizing Powerline Infrastructure. *University of Washington Doctoral Dissertation*, 2014.

OTHER ARTICLES

2012 [O.1] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Humantenna: Using the Body as an Antenna for Real-Time Whole-Body Interaction. University of Washington *Electrical Engineering Kaleidoscope (EEK)* Magazine, 2012, p. 7.

TECHNICAL REPORTS

- 2007 [R.3] **Cohn G.A.** Computer Modeling of Wideband Tapered-Slot Microwave Antenna Feeds. *Caltech RF and Microwave Group*, 2007.
- 2006 [R.2] **Cohn, G.A.**, Sahr, J.D. Meteor radar interferometry using NEC antenna array simulations. *University of Washington Radar Remote Sensing Laboratory*, 2006.
 - [R.1] Lind F., Berkowitz, Z., Morabito, A., Vertatschitsch, L., **Cohn, G.**, Nguyen, K., Sahr, J. RRSL Milestone: First E Region Irregularities on ISIS. *University of Washington Radar Remote Sensing Laboratory*, 2006.

INVITED TALKS

- 2019 [T.17] **Cohn, G.A.** Redefining Noise: Finding Unintended Signals Everywhere. *Texas Wireless Summit*, Austin, Texas, Nov. 12, 2019.
- 2015 [T.16] **Cohn, G.A.** Ubicomp in the Home. *University of Washington EE 590P: Advanced Topics of Digital Computers: Ubiquitous Computing*, Guest Lecture, Seattle, WA, Nov. 17, 2015.
 - [T.15] **Cohn, G.A.** Redefining Noise: Finding Unintended Signals Everywhere. *MobiSys 2015 Workshop on Physical Analytics*, Florence, Italy, May 22, 2015.
- 2014 [T.14] **Cohn, G.** SNUPI: Sensor Network Utilizing Powerline Infrastructure. *University of Washington Doctoral Defense*, Seattle, WA, June 9, 2014.
 - [T.13] Cohn, G.A. Building Embedded Sensor Systems to Bring Ubicomp to Life. Cornell University (Feb. 13), Stanford University (Feb. 18), University of California Berkeley (Feb. 20), University of Wisconsin Madison (Mar. 3), University of Illinois Urbana-Champaign (Mar. 5), Microsoft Research (Mar. 12), University of Wisconsin Madison (Mar. 17), Princeton University (Mar. 25), Harvard University (Mar. 27), Massachusetts Institute of Technology (Mar. 31), University of California Los Angeles (April 3), Columbia University (April 7), 2014.

- 2013 [T.12] **Cohn, G.** SNUPI: Sensor Network Utilizing Powerline Infrastructure. 2013 ACEEE Hot Water Forum, Atlanta, GA, Nov. 5, 2013.
 - [T.11] **Cohn, G.** The University of Washington Ubicomp Lab: A Research Overview. *Georgia Tech Invited Talk*, Atlanta, GA, Nov. 5, 2013.
 - [T.10] **Cohn, G.** and Gupta, S. Hacks for Innovation: Our Approach to Technology Innovations by Hacking Our Surroundings. *Hack Things Meetup*, Seattle, WA, Aug. 2, 2013.
 - [T.9] **Cohn, G.** and Gupta, S. Ubiquitous Computing: Sensing Systems for Human Activity, Context, and Everywhere Interactions. *University of Washington Arch 498D: Creating Responsive Environments*, Guest Lecture, Seattle, WA, Jan. 22, 2013.
- 2012 [T.8] Cohn, G., Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. *University of Washington Computer Science & Engineering Affiliates 2012*, Seattle, WA, Oct. 24, 2012.
 - [T.7] **Cohn, G.**, Gupta, S., Goel, M. An Overview of the Research in UW Ubicomp Lab. *Disney Research Pittsburgh*, Pittsburgh, PA, Sept. 7, 2012.
 - [T.6] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Humantenna: Using the Body as an Antenna for Real-Time Whole-Body Interaction. *2012 Microsoft Research Faculty Summit*, Redmond, WA, July 16, 2012.
 - [T.5] **Cohn, G.** and Gupta, S. Sensor Based Interactions. *University of Washington INFO 463: Input and Interaction*, Guest Lecture, Seattle, WA, May 23, 2012.
 - [T.4] **Cohn, G.**, Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. *Microsoft Research Recently Written Series*, Redmond, WA, May 17, 2012.
- 2011 [T.3] **Cohn, G.** Repurposing the Home Powerlines. *University of Washington EE 592 Seminar*, Seattle, WA, Feb. 18, 2011.
- 2010 [T.2] Cohn, G., Patel, S. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure, Ultra-Low-Power, General-Purpose Wireless Sensing Platform. *University of Washington Computer Science & Engineering Affiliates 2010*, Seattle, WA, Oct. 27, 2010.
- 2007 [T.1] **Cohn, G.A.** Computer Modeling of Wideband Tapered-Slot Microwave Antenna Feeds. *Caltech Internal Microwave Seminar*, Pasadena, CA, Sept. 19, 2007.

POSTERS

- 2012 [P.5] Cohn, G., Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. *University of Washington Computer Science & Engineering Affiliates 2012*, Seattle, WA, Oct. 24, 2012.
- 2011 [P.4] **Cohn G.**, Morris, D., Patel, S., Tan, D. Humantenna: Sensing Whole-Body Gestures using the Human Body as an Antenna. *University of Washington Computer Science & Engineering Affiliates 2011*, Seattle, WA, Oct. 19, 2011.
- 2010 [P.3] **Cohn, G.**, Patel, S. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure. *University of Washington Computer Science & Engineering Affiliates 2010*, Seattle, WA, Oct. 27, 2010.
 - [P.2] **Cohn, G.**, Stuntebeck, E., Pandey, J., Otis, B., Abowd, G.D., Patel, S.N. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure. *12th ACM International Conference on Ubiquitous Computing (UbiComp 2010)*, Copenhagen, Denmark, Sept. 27, 2010.
- 2009 [P.1] Cohn, G., Gupta, S., Froehlich, J., Larson, E., and Patel, S. GasSense: Infrastructure Mediated Gas Monitoring via Single Point Sensing. *University of Washington Computer Science & Engineering Affiliates 2009*, Seattle, WA, Oct. 29, 2009.

PATENTS

- [PA.12] US2018/078,148: Bioimpedance Based Pulse Waveform Sensing. Patent Pending.
- [PA.11] US Patent 9,702,123: Automatic Valve Shutoff Device and Methods. Issued July 11, 2017. Filed Sept. 10, 2015.

- US Patent 9,240,823: Receiver, Apparatus, and Methods for Wirelessly Receiving Data from a Power [PA.10] Infrastructure. Issued Jan. 19, 2016. Filed June 23, 2015.
- US Patent 10,709,383: Wrist-Worn Pulse Transit Time Sensor. Issued July 14, 2020. Filed June 25, 2015. [PA.9]
- [PA.8] US Patent 10,076,252: Sizable Wrist-worn Pressure Sensing Device. Issued Sept. 18, 2018. Filed. Apr. 2, 2015
- [PA.7] US2014/696,236: Systems and Methods for Sensing Environmental Changes Using EMI Signal Sources as Sensors. Patent Pending.
- [PA.6] US Patent 9,064,396: Receiver, Apparatus, and Methods for Wirelessly Receiving Data from a Power Infrastructure. Issued June 23, 2015. Filed Sept. 11, 2013.
- [PA.5] US Patent 9,218,736: Sensor Nodes, Apparatuses, and Methods for Wirelessly Transmitting Data to a Power Infrastructure. Issued Dec. 22, 2015. Filed Sept. 11, 2013.
- [PA.4] US Patent 9,151,022: Automatic Valve Shutoff Device and Methods. Issued Oct. 6, 2015. Filed Jan. 11, 2013.
- [PA.3] US Patent 8,665,210: Sensing User Input Using the Body as an Antenna. Issued Mar. 4, 2014. Filed Dec. 22, 2010.
- [PA.2] US2011/047,138: Systems and Methods for Energy Harvesting in a Contained Fluid Circuit. Patent Pending.
- [PA.1] US2011/047,133: Sensor Systems Wirelessly Utilizing Power Infrastructure and Associated Systems and Methods. Patent Pending.

ADVISING

- 2020 Saaid Arshad
- 2018 Bea Baroudi
- 2017 Caitlin Teague, Frank Liu
- 2016 Roman Kusche
- 2015 Edward Wang
- 2013 Frederick Lee, Ruth Vinisha, Mort Guo
- 2012 Sergey Alekhnovich
- 2011 Thomas Sommerville, Akash Badshah, Tim Campbell

PROFESSIONAL ACTIVITIES / SERVICE

Organizing Co-Chair of Global Jews at Microsoft (JAMS) Community, 2021-present Committee Student Volunteer Chair for ACM UbiComp 2014 and IEEE ISWC 2014

Associate Editor Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), 2016–2022

IEEE Pervasive Computing Magazine, 2020-2022

PACM IMWUT Distinguished Paper Awards Committee, 2020 **Program**

Committee ACM Ubiquitous Computing (UbiComp), 2013, 2015

> ACM User Interface Software and Technology (UIST). 2013 ACM SIGCHI Human Factors in Computing (CHI), 2016

ACM Ubiquitous Computing (UbiComp), 2011, 2013–2019 Reviewer

> ACM SIGCHI Human Factors in Computing (CHI), 2012–2019, 2022 ACM User Interface Software and Technology (UIST), 2011–2020

IEEE Pervasive Computing Magazine, 2013, 2020

IEEE Wearable Computing (ISWC), 2016

ACM Mobile HCI, 2020

ACM Sensor Systems (SenSys), 2013

Pervasive Computing, 2012

ACM Ubiquitous Computing (UbiComp), 2011, 2014 (chair) Student Volunteer ACM User Interface Software and Technology (UIST), 2012

IEEE Wearable Computing (ISWC), 2014 (chair)

Professional ACM Member, 2010 - 2022

IEEE Student Member, 2007 – 2014

Service UW Young Engineering Professionals Mentorship Program, 2016–2018

Hosted UW Electrical Engineering Alumni Event, 2018

UW Electrical Engineering Entrepreneurship Panel, 2017

UW Electrical Engineering Embedded Systems Industry Panel, 2017

Organized MSR/UWEE Networking Lunches, 2014, 2015

UW EE400 Distinguished Alumni Panel, 2015 UW Math Academy Ubicomp Lesson, 2012, 2013 UW Math Academy Reunion CSE/EE Visit, 2012 UW Computer Science & Engineering Open House, 2012

UW College of Engineering Discovery Days, 2011

UW Computer Science & Engineering Affiliates Day, 2009 – 2013

Caltech Chair of Student-Faculty Conference Committee for Elect. Eng., 2009

Caltech IEEE Student Branch President, 2008 – 2009 Caltech IEEE Student Branch Outreach Chair, 2007 – 2008 Caltech Big-T (Yearbook) Business Manager, 2006 – 2007

SELECTED PRESS COVERAGE

A complete list of press coverage can be found on my website at www.gabeacohn.com/press.html

Oct. 2015	SNUPI Technologies in GeekWire, The Seattle Times, Puget Sound Business Journal
Mar. 2014	SNUPI Technologies in Seattle Business Magazine
Feb. 2014	SNUPI Technologies in GeekWire
Jan. 2014	SNUPI Technologies in MIT Technology Review, Xconomy, GeekWire, Puget Sound Business Journal
Jan. 2014	UW Ubicomp Lab in CCC Blog Video
Dec. 2013	SNUPI Technologies in GeekWire
Nov. 2013	SNUPI Technologies in Xconomy, GeekWire
G + 2012	CNUDI Technologica in Contilling Decret Count Decisions Learned

Sept. 2013 SNUPI Technologies in GeekWire, Puget Sound Business Journal

April 2013 **uTouch** in MIT Technology Review

Dec. 2012 SNUPI Technologies in Xconomy, GeekWire, Seattle Bus. Mag., Puget Sound Bus. Journal, The Seattle Times

Sept. 2012 **WatchFrog** in *GeekWire*

May 2012 **Humantenna** in New Scientist, PC Magazine, PCWorld, IDG News Service

Oct. 2011 Humantenna in GeekWire

Sept. 2011 "Your Noise is My Command" in The New York Times

May 2011 "Your Noise is My Command" in MIT Technology Review, Discovery News, TIME, The Wall Street Journal, New Scientist, Engadget, Gizmodo

Dec. 2010 **SNUPI** in *Popular Mechanics*.

Sept. 2010 SNUPI in MIT Technology Review, TechFlash, Popular Science, Slashdot, Communications of the ACM

REFERENCES

Shwetak N. Patel, Ph.D.

Professor Computer Science & Engineering Electrical & Computer Engineering University of Washington shwetak@cs.washington.edu Desney S. Tan, Ph.D.

Vice President and Managing Director Microsoft Health Futures desney@microsoft.com

Additional references can be provided upon request.