

Cheng Zhang

CONTACT INFORMATION

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Cornell University
Gates Hall, Ithaca, NY

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RESEARCH INTERESTS

Ubiquitous Computing, Wearable Computing, Human Computer Interaction

EDUCATION

Georgia Institute of Technology, Atlanta, Georgia USA

Ph.D., Computer Science, Ubicomp Lab August, 2012 - May, 2018

- Advisor: Dr. [Gregory D. Abowd \(CS\)](#) and Dr. [Omer Inan \(ECE\)](#)
- Thesis Title : Novel Gestures for Wearables (**Nominated by Georgia Tech for ACM Dissertation Award**)
- Thesis Committee: Dr. Gregory Abowd , Dr. Omer Inan , Dr. Thad Starner, Dr. Thomas Ploetz, Dr.Chris Harrison

Institute of Software, Chinese Academy of Sciences, Beijing, China

M.S., Computer Applied Technology, **Outstanding Graduates 5%** September, 2009 - July, 2012

Nankai University, Tianjin, China

B.A., Software Engineering, September, 2004 - June, 2008

PROFESSIONAL EXPERIENCE

Cornell University, Ithaca, New York USA

Assistant Professor of Information Science in the school of Computing and Information Science
July. 2018 - Present

Georgia Institute of Technology, Atlanta, Georgia USA

Graduate Research Assistant August. 2012 - May. 2018
Inventing technologies on novel sensing, interaction and activity recognition.

The Technological Innovation: Generating Economic Results (TI:GER) Program

1.5 years-long joint program between Business School in Georgia Tech and the Law School in Emory University August. 2015 - Dec. 2016

Lead a team of two Georgia Tech MBA students and two JD students from Emory law school to commercialize novel input technologies for smartwatches, which have been used to create a **new Start-up: ProximityHCI**

Yahoo! Labs, Sunnyvale, California, USA

Research Intern (Mentor: Dr. Beverly Harrison and Dr. Kent Lyons) May, 2014 - July,2014
Developed a sensing and machine learning system to distinguish drivers by using sensors from the smartphone and the OBD in the car. sensors.

- Published at IUI'16

Institute of Software, Chinese Academy of Sciences, Beijing, China

Graduate Research Assistant September, 2009 - July,2012
Researched on tangible programming interface and music interface for children.

TEACHING EXPERIENCE

Georgia Institute of Technology, Atlanta, Georgia USA

Teaching Assistant

- Principles of User Interface Software, [CS 6456, CS 4470]. Fall, 2014
Instructor: Dr. Keith Edwards
This class is mixed with both undergraduate and graduate students with different backgrounds. As the only TA, my responsibility was to hold office hours to help students understand the concepts of user interface programming (mostly based on Java), taught students on Java Swing programming and supported graduate students on class projects.
- "Mobile and Ubiquitous Computing" [CS 7470, CS 4605, ID 8900, ID 4823]. Spring, 2016
Instructor: Dr. Thad Starner
This class is for both undergraduate and graduate students from majors of computer science, electrical engineering and industrial design. I helped students on solving issues encountered in the class projects as well as providing feedback on assignments.

PUBLICATIONS

Hong Li, Shishir Chawala, Richard Li, Sumeet Jain, Gregory D. Abowd, Thad Starner, **Cheng Zhang**, Thomas Ploetz. WristWash: Towards Automatic Handwashing Assessment using a Wrist-worn Device. The 2018 international symposium on wearable computers (ISWC '18) (To Appear)

Cheng Zhang, Qiuyue Xue, Anandghan Waghmare, Ruichen Meng, Sumeet Jain, Yizeng Han, Xinyu Li, Kenneth Cunefare, Thomas Ploetz, Thad Starner, Omer Inan, Gregory D. Abowd. FingerPing: Recognizing fine-grained hand poses using active acoustic on-body sensing, (Was named FingerSonar) The Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18) [[Paper](#)][[Video](#)]

Cheng Zhang, Anandghan Waghmare, Pranav Kundra, Scott Gilliland, Thomas Ploetz, Thad Starner, Omer Inan, Gregory D. Abowd. FingerSound: Recognizing unistroke thumb gestures using a Ring, The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/ Also presented at The ACM international joint conference on pervasive and ubiquitous computing (UbiComp) 2017. [[Paper](#)][[Video](#)]

Bin Guo, Yi Ouyang, **Cheng Zhang**, JiaFan Zhang, Zhiwen Yu, Yu Wang, CrowdStory: Fine-Grained Event Storyline Generation by Fusion of Multi-Modal Crowdsourced Data. The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/ Also presented at The ACM international joint conference on pervasive and ubiquitous computing (UbiComp) 2017. [[Paper](#)]

Cheng Zhang, Xiaoxuan Wang, Anandghan Waghmare, Sumeet Jain, Thomas Ploetz, Omer Inan, Thad Starner, Gregory Abowd, FingOrbits: Interaction with Wearables using Synchronized Thumb Movements, The 2017 international symposium on wearable computers (ISWC 2017). [[Paper](#)][[Video](#)]

Cheng Zhang, Qiuyue Xue, Anandghan Waghmare, Sumeet Jain, Yiming Pu, Sinan Hersek, Kent Lyons, Kenneth A. Cunefare, Omer T. Inan, and Gregory D. Abowd. 2017. SoundTrak: Continuous 3D Tracking of a Finger Using Active Acoustics. The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/ Also presented at The ACM international joint conference on pervasive and ubiquitous computing (UbiComp) 2017. [[Paper](#)][[Video](#)]

Caleb Southern, Yunnuo Cheng, **Cheng Zhang**, and Gregory D. Abowd. 2017. Understanding the Cost of Driving Trips. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA, 430-434. [[Paper](#)]

Cheng Zhang, Sinan Hersek, Yiming Pu, Danrui Sun, Qiuyue Xue, Thad E. Starner, Gregory D. Abowd, Omer T. Inan. Bioacoustics-Based Human-body-mediated communication (Published on February Issue 2017 on IEEE Computer Magazine) [[Paper](#)][[Video](#)]

Cheng Zhang, Abdelkareem Bedri, Gabriel Reyes, Bailey Bercik, Omer T. Inan, Thad E. Starner,

Gregory D. Abowd. TapSkin: Recognizing on-skin input for smartwatches, Published on 2016 ACM International Conference on Interactive Surface and Spaces (ISS) 2016, Acceptance rate: 33/119 = 27.7% [Paper][Video]

Cheng Zhang, Junrui Yang, Caleb Southern, Thad E. Starner, Gregory D. Abowd. WatchOut: extending interactions on a smartwatch with inertial sensing, In Proceedings of the 2016 ACM International Symposium on Wearable Computers (ISWC), 2016, Acceptance rate: 18 papers were accepted as full paper out of 132 submissions [Paper][Video]

Cheng Zhang, Anhong Guo, Dingtian Zhang, Yang Li, Caleb Southern, Rosa Arriaga, Gregory D Abowd. Beyond the Touchscreen: An Exploration of Extending Interactions on Commodity Smartphones, In ACM Transactions on Interactive Intelligent Systems, 2016, Special Issue "Highlights of IUI'15) [Paper]

Cheng Zhang, Senaka Buthpitiya, Mitesh Patel, Kent Lyons, Beverly Harrison, Gregory D. Abowd, Driver Classification based on their behaviors (In Proceedings of the 20th International Conference on Intelligent User Interfaces (IUI) 2016), Acceptance rate 24%. [Paper]

Cheng Zhang, Anhong Guo, Dingtian Zhang, Caleb Southern, Rosa I. Arriaga, Gregory D Abowd. BeyondTouch: Extending the Input Language with Built-in Sensors on Commodity Smartphones, In Proceedings of the 20th International Conference on Intelligent User Interfaces (IUI) 2015, Acceptance rate 22.9% [Paper][Video]

Edison Thomaz, **Cheng Zhang**, Irfan Essa, Gregory Abowd, Inferring Meal Eating Activities in Real World Settings from Ambient Sounds: A Feasibility Study, In Proceedings of the 20th International Conference on Intelligent User Interfaces (IUI) 2015, **Best Short Paper 1%**, Acceptance rate 22.9%. [Paper]

Yoshihiro Kawahara, Steve Hodges, Benjamin S. Cook, **Cheng Zhang**. Gregory D Abowd. Instant Inkjet Circuits: Labbased Inkjet Printing to Support Rapid Prototyping of UbiComp Devices. The 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2013). [Paper] **Best Paper Award, less than 1%**

Cheng Zhang, A Tangible Programming Tool for Children, Master in Computer Applied Technology Thesis, Institute of Software and Graduate University of Chinese Academy of Sciences, July, 2012.

Danli Wang, **Cheng Zhang** (*The only student author*), Hongan Wang. T-Maze: A Tangible Programming Tool for Children The 10th ACM International Conference on Interaction Design and Children (IDC) 2011, Acceptance Rates 30%. [Paper]

POSTER &
DOCTORAL SCHOOL

Cheng Zhang, Aman Parnami, Caleb Southern, Edison Thomaz, Gabriel Reyes, Rosa Arriaga, Gregory Abowd BackTap: Robust Four-Point Tapping on the Back of an Off-the-shelf Smartphone, Video, Proceedings of the Adjunct Publication of the 26th Annual ACM Symposium on User Interface Software and Technology (UIST'13). [Paper][Video]

Cheng Zhang, Rosa I. Arriaga, Gregory D Abowd. BeyondTouch: A Framework for Extending Input on Commodity Smartphones. The Doctoral School of UbiComp 2013, Zurich, Switzerland, September 8-12, 2013. [Paper]

Cheng Zhang, Li Shen, Danli Wang, Feng Tian, Hongan Wang. CoolMag: A Tangible Interaction Tool to Customize Instruments for Children in Music Education the 13th ACM International Conference on Ubiquitous Computing (UbiComp'11) (Poster). [Paper]

GRANTED AND
PENDING PATENTS

Cheng Zhang, et al, SYSTEMS, METHODS AND DEVICES FOR GESTURE RECOGNITION
International Patent Application PCT/US18/49740 Sept.2018

Cheng Zhang, et al, FingerSonar: Recognizing Fine-Grained Hand Poses Using Active Acoustic
On-Body Sensing, *U.S. Patent Application No. 62/568,417* Oct.2017

Cheng Zhang, et al, Recognition and Interaction with Wearables Using Unistroke Thumb Move-
ments, *U.S. Patent Application No. 62/554,686* Sep.2017

Cheng Zhang, et al, SoundTrak: Continuous 3D Tracking of a Finger Using Active Acoustics, *US*
Patent Application No. 62/513,767 June 2017

Cheng Zhang, et al, WatchOut: Extending Interactions on a Smartwatch with Inertial Sensing,
US Patent Application NO.62/380,691 August 2016
[Licensed to create a new Start-up called ProximityHCI](#)

Cheng Zhang, et al, On-Skin Gesture Around the Wrist Area With a Wrist-Mounted Device, *US*
Patent Application NO. 62/374,939 August 2016
[Licensed to create a new Start-up called ProximityHCI](#)

Dangli Wang, **Cheng Zhang**(*The only student author*), Hongan Wang, Guozhong Dai, A tangible
programming method and system. *Chinese Patent NO. 102136208A* Issued Date 2013

Dangli Wang, **Cheng Zhang** (*The only student author*), Hongan Wang, Guozhong Dai, A collabo-
rative tangible programming method. *Chinese Patent NO. 102800223A* Issued Date
2014

Dangli Wang, Tianyuan Gu, **Cheng Zhang**, Hongan Wang, A tangible programming method and
system using wireless communication. *Chinese Patent NO. 102789713A* Issued Date 2015

STUDENTS ADVISED Stark Li, ECE Undergrad, Cornell, Oct. 2018 - now
• Cool sensing stuff

Tingyu Cheng, Mechanical Engineering Master Student, Syracuse University, Oct. 2018 - now
• Cool sensing stuff

Xitang Zhao, ECE Undergrad, Cornell, Oct. 2018 - now
• Cool sensing stuff

Xueting Bao, ECE Master of Engineering student, Cornell, Sep. 2018 - now
• MEng project on novel wearable sensing

Qinya Zeng, ECE Master of Engineering student, Cornell, Sep. 2018 - now
• MEng project on novel wearable sensing

Ji Wu, ECE Master of Engineering student, Cornell, Sep. 2018 - now
• MEng project on novel wearable sensing

Jie Huang, ECE Master of Engineering student, Cornell, Sep. 2018 - now
• MEng project on novel wearable sensing

Zhonghao Zhan, MPS student, Cornell, Sept. 2018 - now

- Wearable sensing and interaction

Fanwen Ji, MPS student, Cornell,

Aug. 2018 - now

- Wearable Design

Ru Wang, Undergraduate Summer Intern from EECS, Shanghai Jiaotong University, July 2018 - Sep. 2018

- Working on novel wearable sensing for activity recognition and interaction

Bailey Bercik, CS Undergraduate student , Georgia Tech,

Spring 2016 - April 2018

- She first worked with me on TapSkin project on her second year of undergraduate study. Currently, I am mentoring her undergraduate thesis with a topic of "3D interaction for Smartphones".

Qiuyue Xue, CS-MS student, Georgia Tech

September 2017 - April 2018

- *She was a visiting undergraduate student from Peking University in Summer 2016*, when she worked on building physics and math models on SoundTrak in Summer 2016.
- Now she worked with me on analyzing physical phenomena for various sensing applications, including analyzing data and ran the user study for FingerSonar.

Yuhui Zhao, Undergrad in Mechanical Engineering, Georgia Tech Summer 2017 - April 2018

- He worked on prototyping wearable systems that provides continuous tracking of the arm or the finger using orientation.

Xi Chen, Undergraduate Visiting Student, Peking University October 2017 - January 2018

- She is working on building a smarting with proximity sensing to provide fine-grained finger gestures.

Shaurye Aggarwal, CS Undergrad, Georgia Tech,

Summer 2017 - April 2018

- He developed testing system on Android watch for OriTrak. Currently, I am mentoring his thesis project with a topic on "Activity recognition using body postures".

Yaxiong Liu, CS MS, Georgia Tech,

July 2017 - Dec 2017

- He developed user interface and testing system on Android watch for comparing 2D and 3D interaction efficiency.

Ruichen Meng, MS-HCI, Georgia Tech,

Spring 2017 - April 2018

- He designed and built various wearable form factors.
- I am mentoring his MS project on "redesigned watch interface for 3D input".

Yizeng Han, Visiting Undergraduate Student , Tsinghua University,

Summer 2017

- During his two months stay, he tested various machine learning algorithms on acoustic sensing data for FingerSonar.

Yiming Pu, MS-HCI , Georgia Tech,

May 2016- May 2017

- Currently Interaction Designer at Google
- She worked on hardware prototyping, visual design, video editing and user study design on various on-body acoustic sensing projects.

Anandghan Waghmore, MS-HCI , Georgia Tech,

August 2016 - May 2017

- He prototypes various hardware and software for wearables including projects on: SoundTrak, FingerSound, FingOrbits and FingerSonar.

Sumeet Jain, MS-HCI , Georgia Tech,

August 2016- May 2017

- He built customized hardware to control a 3D printer, which was used to evaluate the system performance of novel 3D input technology (SoundTrak).

Xinyu Li, MS-HCI student, Georgia Tech September 2017 - May 2017

- She built various form factors including ring and bands for FingerSonar project.

Pranav Kundra, CS-MS , Georgia Tech, August 2016- May 2017

- Currently Software Engineer at Bloomberg
- He worked on machine learning analysis for FingerSound.

Danrui Sun, MS-HCI student, Georgia Tech Summer, 2016

- *She was a visiting undergraduate student from Beijing University of Posts and Telecommunications in Summer 2016* and worked on verifying FSK decoding on acoustic-mediated body-area networks.

Junrui Yang, Visiting undergraduate student from Peking University, Dec. 2015 - Feb. 2016

- Currently, he is a CS PhD student in Stanford University
- He worked on novel interactions on commodity smartwatches (WatchOut).

Anhong Guo, MS-HCI, Georgia Tech, 2013-2014

- Currently, he is a PhD student at HCII in Carnegie Mellon University
- He worked on extending interactions on smartphones (BeyondTouch) and lead the evaluation.

SELECTED AWARDS

- **Ph.D. thesis was nominated by Georgia Tech for ACM Dissertation Award** 2018
- **Outstanding Graduate Research Assistant** in College of Computing, Georgia Tech (At most two recipients per year from all graduate students in the College) 2018
- **Excellent Reviewer for CHI'17** 2017
- **Student Travel Grant for IUI'16** 2016
- **Best Short Paper Award on 20th ACM Conference on Intelligent User Interfaces (less than 1% of all submissions)** 2015
- **Winner of Wearable Computing Center Engagement Grant at Georgia Tech (\$8000)** 2014
- **Best Paper Award on Ubicomp 2013 (less than 1% of all submissions)** 2013
- **Anne Robinson Clough Conference Grant** 2013
- **Student Travel Grant for Ubicomp'13** 2013
- **GVU Travel Grant** 2013, 2015
- **Outstanding Graduate in Beijing (Highest Honor, less than 4% from all graduate students)** 2012
- **Outstanding Graduate in the Graduate University of the Chinese Academy of Sciences (Highest Honor, less than 4% from all graduate students)** 2012
- **Merit Student at the Chinese Academy of Science (15%)** 2011
- **3rd Prize, Outstanding Student Scholarship of Nankai University** 2006
- **2nd Prize, Freshman Scholarship of Nankai University (5%)** 2004
- **3rd Prize, National Olympic Mathematics Competition in ShaanXi Province, China** 2001
- **2nd Prize, Olympic Mathematics Competition in XianYang City, ShaanXi Province, China** 1998

SELECTED MEDIA COVERAGE

- [Georgia Tech News Center Wearable Computing Ring Allows Users to Write Words and Numbers with Thumb](#) Nov.29 2017
- [Science Daily Electronic Ring: Write With Thumb, See On Display](#) Nov.29 2017
- [MSN News In the palm of your hand: Wearable thumb tech to revolutionize how we text](#) Nov.30 2017
- [TechRadar This smart ring lets you write words and numbers with your thumb](#) Nov.30 2017

- **RT** [In the palm of your hand: Wearable thumb tech to revolutionize how we text](#) Nov.30 2017
- **Phys.org** [Wearable computing ring allows users to write words and numbers with thumb](#) Nov.30 2017
- **New Atlas** [Fingersound ring allows control of devices with thumb gestures](#) Nov.30 2017
- **ACM Careers (Communications of ACM)** [Wearable computing ring allows users to write words and numbers with thumb](#) D.30 2017
- **Wearable Technology Insights** [Computing ring, write words and numbers with a thumb](#) Dec.4th 2017
- **Trendly** [This smart ring lets you write words and numbers with your thumb](#) Nov.30 2017
- **Electronics 360 IEEE GlobalSpec** [Watch: Wearable Computing Ring Puts Thumb in Driver's Seat](#) Dec.1st 2017
- **R & D Magazine** [Wearable Computing Ring Lets Users Write with Thumb](#) Dec.11 2017
- **The Economic Times** [Who needs a phone to answer calls, when your wearable ring can do the job?](#) Dec.1st 2017
- **HongKong OnTV (Chinese)** [Asian student in USA invented smart ring, which can be used as a remote control](#) Dec.1st 2017
- **Tencent News (Chinese)** [Engineers invented new smart ring, which can be used to write text and answer calls](#) Dec.1st 2017
- **Sohu News (Chinese)** [Engineers invented new smart ring, which can be used to write text and answer calls](#) Dec.1st 2017
- **Open-Open.com (Chinese)** [Engineers invented new smart ring, which can be used to write text and answer calls](#) Dec.1st 2017
- **Cnblog.com (Chinese)** [Engineers invented new smart ring, which can be used to write text and answer calls](#) Dec.1st 2017
- **TechNews (Chinese)** [Engineers invented new smart ring, which can be used to write text and answer calls](#) Dec.1st 2017
- **ShiXunWang (Chinese)** [Engineers invented new smart ring, which can be used to write text and answer calls](#) Dec.1st 2017
- **The Hindu Now**, [control devices with thumb gestures](#) Dec.1st 2017
- **Deccan Chronicle** [Scientists create ring that can make calls, answer texts without phone](#) Nov.30 2017
- **Eurasia Diary** [Researchers develop thumb ring which controls any smart device with gestures](#) Dec.1st 2017
- **ANews** [Researchers develop thumb ring which controls any smart device with gestures](#) Dec.1st 2017
- **Techz zone** [This smart ring lets you write words and numbers with your thumb](#) Dec.1st 2017
- **Daily Sabah Science** [Researchers develop thumb ring which controls any smart device with gestures](#) Dec.1st 2017
- **NEWSLINE** [In the palm of your hand: Wearable thumb tech to revolutionize how we text](#) Nov.30 2017
- **HERALDO (Spanish)** [Fingersound, el anillo 'mgico' que lleva a la pantalla lo que escribe el pulgar](#) Nov.30 2017
- **ACE Computer** [This wise ring lets you write text and figures with your thumb](#) Nov.30 2017
- **Product Design&Development** [Wearable Computing Ring Allows Users to Write Words And Numbers With Thumb](#) Nov.30 2017
- **ECN** [Smart Ring Allows Users To Write With Only Their Thumb](#) Nov.30 2017
- **Brinkwire** [Wearable computing ring allows users to write words and numbers with thumb](#) Nov.30 2017
- **RepublicWorld** [After Smart Watches, Smart Rings Are The New Technology!](#) Nov.30 2017
- **TNH Tech News Here** [This smart ring lets you write words and numbers with your thumb](#) Nov.30 2017
- **Tech News Log** [This smart ring lets you write words and numbers with your thumb](#) Nov.30 2017
- **CetusNews** [This smart ring lets you write words and numbers with your thumb](#) Nov.30 2017

- [The Asian Age](#) Wearable ring allows users to type on fingers: study Nov.30 2017
- [India.com](#) Wearable ring allows users to type on fingers: study Nov.30 2017
- [DNA India](#) New wearable ring will now allow users to write words, numbers with thumb! Nov.30 2017
- [Outlook India](#) Wearable ring allows users to type on fingers: study Nov.30 2017
- [Georgia Tech News Center & Georgia Tech Research Horizons](#) New Techniques Allow Greater Control of Smartwatches Jan.24 2017
- [Digital Trends](#) Breathe in, breathe out: New technique controls smartwatch using breath and skin Jan.24 2017
- [Georgia Tech GVU Center News](#) Technology controlled by breaths, swipes and tapping of the skin Jan.25 2017
- [TechExplore](#) New techniques allow greater control of smartwatches Jan.25 2017
- [Tech2](#) New ways to interact with smartwatches to help user-device communication developed by researchers Jan.29 2017
- [Financial Express](#) New technology lets you control smartwatches with just your breath! Jun.7 2017
- [Yahoo News](#) Breathe in, breathe out: New technique controls smartwatch using breath and skin Jan.27 2017
- [GIZBOT](#) New technology lets you control smartwatch using breath and skin Jan.31 2017
- [Sohu News \(Chinese\)](#) Novel Smartwatch Interactions techniques Jan.30 2017
- [EDN Asia](#) Gesture techniques extend smartwatch interaction Jan.27 2017
- [Futurity](#) Sip info from your smartwatch, whoosh it to your phone Jan.24 2017
- [Daily News & Analysis](#) Scientists have developed tech that lets you control your smartwatch with just your breath Jan.30 2017
- [The Indian Express](#) New technology allows you to control your smartwatch with just your breath Jan.29 2017
- [BGR India](#) This technology lets you take calls by blowing at your smartwatch Jan.30 2017
- [TechRadar](#) We may control the next generation of smartwatches by breathing on them Jan.30 2017
- [TechFacts](#) Receive Calls by Blowing Your Breath on the Smartwatch Jan.30 2017
- [StillUnfold](#) The Next Generation Of Smartwatch Can Be Controlled By Our Breathing Jan.30 2017
- [CrazyEngineers](#) A New Series Of Remarkable Applications Launched To Ease Your Smartwatch Experience Jan.28 2017
- [Mobilni.info](#) Newly developed input technique controls smartwatch using breath and skin taps Jan.28 2017
- [e-Duque.net \(Spanish\)](#) Relojes que funcionan con un soplo y suenan como una flauta Jan.31 2017
- [Tom's Hardware \(Italy\)](#) The smartwatch of the future will be controlled by the breath Jan.31 2017
- [Business Insider \(Polish\)](#) Technology use human body to configure Bluetooth setting February 2017
- [Georgia Tech News Center](#) Georgia Tech Develops Inkjet-Based Circuits at Fraction of Time and Cost Nov.3rd 2013
- [ZDNet](#) Instant inkjet circuits Oct.7th 2013
- [New Scientist](#) Print a working paper computer on an \$80 inkjet Oct.3rd 2013
- [Georgia Tech GVU Center News](#) Georgia Tech Develops Inkjet-Based Circuits at Fraction of Time and Cost Nov.5th 2013
- [PHYS.ORG](#) Georgia Tech develops inkjet-based circuits at fraction of time and cost Nov.6th 2013
- [ElectronicsWeekly.com](#) PCBs can be ink-jet printed on a normal printer Nov.15th 2013
- [HEXUS](#) Instant inkjet circuits output from your inkjet in under a minute Nov.12nd 2013
- [Fast Company](#) Hack Your Useless Inkjet To Print Electronics Circuits Nov.11st 2013
- [Science Daily](#) Inkjet-based circuits created at fraction of time and cost Nov.6th 2013

- **HACKADAY** [Instant inkjet circuits with silver nanoparticle ink](#) Dec.5th 2013
- **KURZWEIL** [How to inkjet-print circuits at fraction of time and cost](#) Dec.8th 2013
- **Futura Tech (French)** [Electrical circuits made with an inkjet printer](#) Nov.15th 2013

SERVICES

- Reviewer for CHI 2013-18, Ubicomp 2014-16, IMWUT 2017-18, ISWC 2014-17, UIST 2016-17, MobileHCI 2016-17, IUI 2015-16, ISS 2017, DIS 2017, PervasiveHealth 2015, International Journal of Human Computer Studies(IJHCS).
- **Student Volunteer Chair** for Ubicomp 17/ISWC 17 2017
- Program Committee on MobileHCI'17 workshop on object recognition for input and mobile interaction 2017
- Student Volunteer on IUI'16 March, 2016
- Volunteer: Atlanta Maker Fair 2015,2016
- Volunteer coordinator: Chinese Symposium on Human Computer Interaction 2011 March, 2011
- Volunteer coordinator: Chinese Strategy Symposium on Human Computer Interaction 2011 January, 2011
- Volunteer: 2010 Visual Information Communication International Symposium September, 2010

REFERENCE

[Gregory D. Abowd](#) (Co-advisor)

- Regents Professor and J.Z. Liang Chair
School of Interactive Computing
Georgia Institute of Technology
Email:abowd@gatech.edu

[Omer Inan](#)(Co-advisor)

- Assistant Professor
School of Electrical and Computer Engineering
Georgia Institute of Technology
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[Thad Starner](#)

- Professor
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[Thomas Ploetz](#)

- Associate Professor
School of Interactive Computing
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[Shwetak N. Patel](#)

- Washington Research Foundation Entrepreneurship Endowed Professor
School of Computer Science and Engineering, School of Electrical Engineering
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[Chris Harrison](#)

- Habermann Chair and an Assistant Professor
Human Computer Interaction Institute
Carnegie Mellon University

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