Yang Zhang

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**Research Interests**

I build interfaces which bridge the gaps between computing resources and people's daily lives in a natural and efficient way. My research interests fall into the research fields of sensing technology, wearables, and fabrications.

**Education**

**Carnegie Mellon University**,School of Computer SciencePittsburgh, PA

2nd Year Ph.D., in Human-Computer Interaction Institute *Advisor: Chris Harrison* Aug 2015 -

**Carnegie Mellon University**,School of ArchitecturePittsburgh, PA

Master of Science in Computational Design Aug 2013 - May 2015

**Beihang University**, School of Automation Science and Electronic Engineering Beijing, China

Bachelor of Engineering in Electronic Engineering Aug 2009 - May 2013

**Academic Honor and Awards**

Best Paper Nomination at CHI 2016, San Jose, CA, USA Top 4%

Best Talk at CHI 2016, San Jose, CA, USA Top 1%

Best Note Award at ITS 2015, Madeira, Portugal Top 5%

Best Talk Nomination at UIST 2015, Charlotte, NC, USA Top 4%

1st Most Creative Award at UIST 2014 Student Innovation Contest, Honolulu, HI Top 3%

**Publication**

**CHI 2017** (To appear at the 35th Annual ACM Conference on Human Factors in Computing Systems)

**Zhang, Y**., Laput, G., and Harrison, C. “Electrick: Low-Cost Touch Sensing Using Electric Field Tomography”, Denver, CO, USA

**CHI 2017** (To appear at the 35th Annual ACM Conference on Human Factors in Computing Systems)

Laput, G., **Zhang, Y**., andHarrison, C.“Synthetic Sensors: Towards General-Purpose Sensing”, Denver, CO, USA

**CHI 2017** (To appear at the 35th Annual ACM Conference on Human Factors in Computing Systems)

Xiao, R., Laput, G., **Zhang, Y**., and Harrison, C.“Deus EM Machina: On-Touch Contextual Functionality for Smart IoT Appliances”, Denver, CO, USA

**UIST 2016** (the 29th annual ACM Symposium on User Interface Software and Technology)

**Zhang, Y**., Xiao, R. and Harrison, C. “Advancing Hand Gesture Recognition with High Resolution Electrical Impedance Tomography”, Tokyo, Japan

**UIST 2016** (the 29th annual ACM Symposium on User Interface Software and Technology)

Zhou, J., **Zhang, Y.**, Laput, G. and Harrison, C. “AuraSense: Enabling Expressive Around-Smartwatch Interactions with Electric Field Sensing”, Tokyo, Japan

**CHI 2016** (the 34th Annual ACM Conference on Human Factors in Computing Systems)  ***Best Paper Nomination***

**Zhang, Y.,** Zhou, J., Laput, G. and Harrison, C. “SkinTrack: Using Body as an Electrical Waveguide for Continuous Tracking on the Skin”, San Jose, CA, USA

**ITS 2015** (the 10th annual ACM Symposium on Interactive Tabletops and Surfaces) ***Best Note***

**Zhang, Y**. and Harrison, C. “Quantifying the Targeting Performance Benefit of Electrostatic Haptic Feedback on Touchscreens”, Madeira, Portugal

**UIST 2015** (the 28th annual ACM Symposium on User Interface Software and Technology) ***Best Talk Nomination***

**Zhang, Y**. and Harrison, C. “Tomo: Wearable, Low-Cost Electrical Impedance Tomography for Hand Gesture Recognition”, Charlotte, NC, USA

**IDC 2013** (the 12th annual ACM International Conference on Interaction Design and Children)

Wang, D.L., Qi, Y.F., **Zhang, Y**. and Wang, T.T. “TanPro-Kit: A Tangible Programming Tool for Children”, New York City, NY, USA

**UIST 2012** (the 25th annual ACM Symposium on User Interface Software and Technology)

Wang, D.L., **Zhang, Y**., Gu, T.Y., He, L., and Wang, H.A. “E-Block: A Tangible Programming Tool for Children”, Cambridge, MA, USA

**UbiComp 2012** (the 13th annual ACM Conference on Ubiquitous Computing)

He, L., Li, G., **Zhang, Y**., Wang, D.L., and Wang, H.A. “TempoString: A Tangible Tool for Children’s Music Creation”, Pittsburgh, PA, USA

**Research Experience**

**Carnegie Mellon University**, Human-Computer Interaction Institute Pittsburgh, PA

*Graduate Student Researcher.* ***Advised by*** *Prof. Chris Harrison* Aug 2014 - Present

Researching on novel interfaces for smartwatches and haptic feedback

* Developed touch tracking techniques for fabricated objects in HCI
* Developed novel sensing technology for smartwatches
* Evaluating targeting performance benefit of electrostatic feedback on touchscreens

**Institute of Software Chinese Academy of Sciences**, HCI Lab Beijing, China

*Intern Researcher.* ***Advised by*** *Prof. Danli Wang* Apr 2012 - Nov 2013

Developed educational software for children’s early computer education

* Adopted computer vision, sensors and wireless technology to develop tangible tools for children to learn programming
* Conducted user studies of children aged from 5 to 9 focusing on their learning process by videotaped analysis, structured interview and questionnaires

**Professional Experience**

**Marvell Semiconductor**, Kinoma software group Santa Clara, CA

*Intern Engineer.* ***Advised by*** *Dr. Andy Carle* May 2014 - Aug 2014

Developed applications for Kinoma Create, the next generation IoT construction kit

* Built a light installation which visualizes the global tweet stream in real-time based on geographical and traffic load information
* Worked with UART, I2C communication of the microcontrollers and Oauth1.0 and web socket of the web services
* Improved user experience for Kinoma Create and tested core library functions

**Skills**

***Programming:*** C, C++, Java, Python, Matlab

***Tools:*** TensorFlow, Eagle, Weka, AWS APIs, IOS and Android SDK, Arduino, openFrameworks, Processing

***Fabrication:*** Welding, 3D Printing, Laser Cutting, CNC Routing, Milling, Vacuum Forming, Molding