Yang Zhang

**Email**: yang.zhang@cs.cmu.edu

**Mobile**: (412)-330-8667

**Personal page**: www.yang-zhang.me

**Research Interests**

Combining se­­nsing technologies and machine learning to make interfaces more fluid and expressive, including tangible interfaces, wearable technology, ubiquitous computing, and sensing technology.

**Education**

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

1st 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

**Honor and Awards**

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

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

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

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

1st prize of 1st Annual Internet of Things World Hackathon 2014, San Francisco, CA Top 5%

Meritorious winner of Interdisciplinary Contest in Modeling 2012, COMAP Top 10%

1st scholarship for outstanding performance in science and technology competitions at BUAA Top 10%

**Publication**

**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 novel sensing technology for smartwatches
* Evaluating targeting performance benefit of electrostatic feedback on touchscreens
* Explored on mapping texture data recorded from real-world materials with tactile feedback recreated by the electrostatic force

**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

**Project Experience**

**Carnegie Mellon University**, School of Computer Science Pittsburgh, PA

Created a RESTful OLAP system for tweet data based on Amazon Web Services Aug 2014 - Dec 2014

* Designed and implemented MySQL backend system using reverse proxy protocol with price friendly load balance tuning
* Parsed 1TB tweet data by Elastic Map Reduce ETL (extract, transform, load)

Built a real-time Wikipedia data analysis system Aug 2014 - Dec 2014

* Designed and implemented a custom API for Wikipedia articles browsing analytics
* Developed a user-friendly IOS app to refresh the top 10 most popular articles of Wikipedia in real-time

**Carnegie Mellon University**, School of Architecture Pittsburgh, PA

Developed interactive installations and demos Aug 2013 - May 2014

* Developed an interactive projected drawing of traditional Chinese water color style fish based on Kinect, OpenGL and OpenMP
* Developed a wearable sensor and projector system which can project an animation representing the carrier’s heartbeat

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

Developed smart sensing and control techniques Aug 2011 - May 2013

* Designed an algorithm to simulate people’s visual attention for robots
* Built a smart remote control system for indoor lighting
* Designed an algorithm to detect falls and built a wearable sensor for senior citizens

**Skills**

Programming: C, C++, Java, Python

Tools: Matlab, Weka, SPSS, AWS APIs, IOS and Android SDK, Arduino, Processing core libraries

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