

YANG ZHANG

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

Carnegie Mellon University, School of Architecture
Master of Science in Computational Design Pittsburgh, PA
Aug 2013 - May 2015

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

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
Graduate Student Researcher. Advised by Prof. Chris Harrison

Pittsburgh, PA
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
Apr 2012 - Nov 2013

Intern Researcher. Advised by Prof. Danli Wang

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
May 2014 - Aug 2014

Intern Engineer. Advised by Dr. Andy Carle

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

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

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