"Alan" Dingtian Zhang

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 alandingtianzhang.com

Education

Georgia Institute of Technology **Atlanta, GA**
Ph.D in Computer Science *2015–Present*

Georgia Institute of Technology **Atlanta, GA**
MS in Computer Science, specialized in Human-Computer Interaction *2013–2015*

Tsinghua University **Beijing, China**
BS in Computer Science and Technology *2009–2013*

Selected Research Projects

COSMOS *'COmputational Skins for Multifunctional Objects and Systems'*

Leading a team to design and develop ubiquitous computational skins that weave into everyday life, which is an collaborative effots across disciplines to fabricate flexible nanomaterial non-silicon circuits into sensor networks which can collect, process, and communicate data with energy harvested from the environment.

Whoosh *'Non-voice Acoustics for Low-Cost, Hands-Free, and Rapid Input on Smartwatches'*

Worked in a team to develop Whoosh, a non-voice acoustic input (e.g., blowing, shooshing, and other dynamicevents) for low-cost and rapid interaction on smartwatch. Designed and 3D-printed a passive watch case inspired by traditional Asian flute to expand the vocabulary (directional and bezel blows) for commodity smartwatches. Implemented audio signal processing and machine learning for real-time input classification.

Roomscale Augmented Reality: *'Applying Design Studio Pedagogy in STEM Learning with Novel Presentation and Sensing Technologies'*

Led development of projected augmented reality to add design studio learning models to a classroom for STEM classes that encourage creativity, innovation, and help build strong peer learning environments. Used Microsoft RoomAlive Toolkit to construct a room-scale augmented reality using pairs of projectors and depth cameras where teachers and students can view and interact with the students' work on the wall.

Employment

Georgia Institute of Technology **Atlanta, GA**
Graduate Research Assistant *January 2016–Present*
Conducting research on COSMOS projects at Ubicomp Lab advised by Dr. Gregory Abowd.

Facebook **Seattle, WA**
PhD Internship in Machine Learning *May 2018–August 2018*

Developed algorithms to build meaningful connections between users and groups more effectively using applied machine learning at Facebook Groups Team.

○ **Disney Research**   **Pittsburgh, PA**
Research & Development Lab Associate   *May 2017–November 2017*

Worked with Dr. Alanson Sample to design a highly automated fabrication pipeline that produces high-quality, colored board books with embedded electronics for interactivity.

○ **Technicolor Research**   **Los Altos, CA**
Research & Innovation Intern   *May 2016–August 2016*

Worked with Dr. Kent Lyons to explore continuous finger tracking in 3D mixed reality using magnetic field. Developed algorithms that tracks magnets in 5 degrees of freedom and a low-cost, energy-efficient tracking system.

○ **2Dme**   **Cleveland, OH**
Technical Co-Founder   *May 2014-August 2014*

Co-founded a startup and successfully landed on incubator Bizdom by coordinating six teams of engineers and artists. Led development of face-to-face chatting technology featuring customizable 2D avatars with real-time facial expression. Worked on human facial feature extraction, scalable vector graphic (SVG) face animation in Unity, and Android application.

Technical Skills

○ **Programming Languages:** Proficient{Java, Python}, Skilled{C++, SQL}, Experienced{Javascript, PHP}

○ **Software:** Scikit-Learn, TensorFlow, SolidWorks, Eagle CAD, Arduino, Unity 3D, Android Studio

○ **Hardware:** Electronic Prototyping, Inkjet Printing, 3D Printing, Circuit Design and Fabrication

Publications

Gabriel Reyes, Dingtian Zhang, Sarthak Ghosh, Pratik Shah, Jason Wu, Aman Parnami, Bailey Bercik, Thad Starner, Gregory D. Abowd, and W. Keith Edwards. "Whoosh: non-voice acoustics for low-cost, hands-free, and rapid input on smartwatches." In *Proceedings of the 2016 ACM International Symposium on Wearable Computers*. ACM, 2016.

Blair MacIntyre, Dingtian Zhang, Ryan Jones, Amber Solomon, Elizabeth DiSalvo, Mark Guzdial. "Using Projection AR to Add Design Studio Pedagogy to a CS Classroom." In *2016 IEEE Virtual Reality (VR)*. IEEE, 2016.

Cheng Zhang, Anhong Guo, Dingtian Zhang, Caleb Southern, Rosa Arriaga, Gregory Abowd. "BeyondTouch: Extending the Input Language with Built-in Sensors on Commodity Smartphones." In *Proceedings of the 20th International Conference on Intelligent User Interfaces*. ACM, 2015.

Davis, Nicholas, Yanna Popova, Ivan Sysoev, Chih-Pin Hsiao, Dingtian Zhang, and Brian Magerko. "Building Artistic Computer Colleagues with an Enactive Model of Creativity." In *Proceedings of 5th International Conference on Computational Creativity*. The International Association for Computational Creativity, May 2014.