

**Xiang 'Anthony' Chen**

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Last updated

6/11/2022

**Current Position**

|        |                     |   |
|--------|---------------------|---|
| 2018 - | Assistant Professor | Department of Electrical & Computer Engineering<br>UCLA |
| 2022 - | Visiting Professor  | Department of Computer Science<br>University of Tokyo   |
| 2021 - | Visiting Professor  | Salesforce Research                                     |

**Education**

|             |        |  |
|-------------|--------|--|
| 2012 - 2017 | Ph.D.  | Carnegie Mellon University<br>School of Computer Science<br>Advisors: Scott Hudson and Stelian Coros<br>Committee: Jodi Forlizzi and Tovi Grossman |
| 2010 - 2012 | M.Sc.  | University of Calgary<br>Department of Computer Science<br>Advisors: Saul Greenberg and Richard Levy<br>Committee: Barry Wylant and Larry Katz     |
| 2006 - 2010 | B.Eng. | Zhejiang University<br>Department of Computer Science<br>Chu Kochen Honors College   |
| 2010        |        | Universidad Politécnica de Madrid<br>Exchange student in Telecommunication Engineering, E.T.S.I. Telecomunicación                                  |
| 2003 - 2006 |        | Affiliated High School of South China Normal University<br>Innovation Class student in Science   |

**Awards**

|      |  |
|------|--|
| 2022 | Google Research Scholar Award                        |
| 2021 | ONR Young Investigator Award                         |
| 2021 | NSF CAREER Award                                     |
| 2020 | Hellman Fellowship                                   |
| 2020 | CHI Best Paper Honorable Mention Award               |
| 2019 | NSF CISE Research Initiation Initiative (CRII) Award |
| 2018 | CHI Best Paper Honorable Mention Award               |
| 2016 | Adobe Research PhD Fellowship                        |
| 2015 | Qualcomm Innovation Fellowship Finalist              |
| 2014 | UIST Best Paper Award                                |

|             |  |
|-------------|--|
| 2014        | CHI Best Paper Award   |
| 2014        | CHI Best Talk Award  |
| 2013        | Qualcomm Innovation Fellowship Finalist                                      |
| 2012        | University of Calgary Department Research Award                              |
| 2010        | Academic Project Scholarships in Madrid-Spain for Chinese Technical Students |
| 2009        | Zhejiang University Academic Scholarship                                     |
| 2007 - 2008 | University of Hong Kong Crimson Summer Exchange Co-Fellowship                |

## Professional Experience

|      |                    |  |
|------|--------------------|--|
| 2018 | Research Scientist | Tableau Research, Palo Alto<br>Enabling people to interact with data on mobile devices   |
| 2015 | Research Intern    | Google Research, Mountain View<br>Mobile Interactive Computing Group with Yang Li<br>Developed a user-defined cross-device interaction framework                             |
| 2014 | Research Intern    | Microsoft Research, Redmond<br>Natural Interaction Research Group with Bill Buxton and Ken Hinckley<br>Developed a multi-wearable interactive system                         |
| 2013 | Research Intern    | Autodesk Research, Toronto<br>User Interface Research Group with Tovi Grossman, Daniel Wigdor, and George Fitzmaurice<br>Developed interaction techniques with smart watches |
| 2012 | Research Intern    | Microsoft Research, Redmond<br>Natural Interaction Research Group with Ken Hinckley and Hrvoje Benko<br>Developed motion and context sensing techniques for pen computing    |
| 2010 | Research Intern    | Microsoft Research Asia, Beijing<br>Media Computing Group with Bin B. Zhu<br>Developed novel CAPTCHA techniques and systems  |
| 2009 | Engineering Intern | Alibaba Group, Hangzhou<br>Quality Assurance Group<br>Developed routines for testing data-centric web-based programs   |

## Publications

### *Dissertations/Theses*

|      |       |   |
|------|-------|---|
| 2017 | Ph.D. | Making Fabrication Real: Fabrication for Real Usage, with Real Objects, by Real People<br>Doctoral dissertation, Carnegie Mellon University |
| 2012 | M.Sc. | Body-Centric Interaction with a Screen-based Handheld Device<br>Master's thesis, University of Calgary                                      |

### *Book Chapters*

|      |  |   |
|------|--|---|
| 2021 |  | Yuan Liang, Lei He, Xiang 'Anthony' Chen<br>Human-Centered AI for Medical Imaging |
|------|--|---|

In: Yang Li, Otmar Hilliges. (eds) Artificial Intelligence for Human Computer Interaction: A Modern Approach. Human-Computer Interaction Series. Springer, Cham.

*Conference & Journal Papers*

- 2022 IMWUT Shoes++: A Smart Detachable Sole for Social Foot-to-foot Interaction  
Zihan Yan, Jiayi Zhou, Yufei Wu, Guanhong Liu, Danli, Luo, Zihong Zhou, Haipeng Mi, Lingyun Sun, Xiang 'Anthony' Chen, Ye Tao, Yang Zhang, Guanyun Wang  
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies
- 2022 CHI EmoGlass: an End-to-End AI-Enabled Wearable Platform for Enhancing Self-Awareness of Emotional Health.  
Zihan Yan, Yufei Wu, Yang Zhang, Xiang 'Anthony' Chen  
Proceedings of the CHI '22: CHI Conference on Human Factors in Computing Systems, New Orleans, LA, USA, 29 April 2022, 2022
- 2022 CHI Roman: Making Everyday Objects Robotically Manipulable with 3D-Printable Add-on Mechanisms.  
Jiahao Li, Alexis Samoylov, Jeeun Kim, Xiang 'Anthony' Chen  
Proceedings of the CHI '22: CHI Conference on Human Factors in Computing Systems, New Orleans, LA, USA, 29 April 2022, 2022
- 2022 CHI Mobiot: Augmenting Everyday Objects into Moving IoT Devices Using 3D Printed Attachments Generated by Demonstration.  
Abul Al Arabi, Jiahao Li, Xiang 'Anthony' Chen, Jeeun Kim  
Proceedings of the CHI '22: CHI Conference on Human Factors in Computing Systems, New Orleans, LA, USA, 29 April 2022, 2022
- 2021 CSCW Lessons Learned from Designing an AI-Enabled Diagnosis Tool for Pathologists.  
Hongyan Gu, Jingbin Huang, Lauren Hung, Xiang 'Anthony' Chen  
Proc. ACM Hum. Comput. Interact., 2021
- 2021 TEI OmniSoft: A Design Tool for Soft Objects by Example.  
Jeeun Kim, Qingnan Zhou, Amanda Ghassaei, Xiang 'Anthony' Chen  
Proceedings of the TEI '21: Fifteenth International Conference on Tangible, 2021
- 2021 IUI XAlgo: a Design Probe of Explaining Algorithms' Internal States via Question-Answering.  
Juan Carlo Rebanal, Jordan Combitsis, Yuqi Tang, Xiang 'Anthony' Chen  
Proceedings of the IUI '21: 26th International Conference on Intelligent User Interfaces, 2021
- 2021 IUI OralViewer: 3D Demonstration of Dental Surgeries for Patient Education with Oral Cavity Reconstruction from a 2D Panoramic X-ray.  
Yuan Liang, Liang Qiu, Tiancheng Lu, Zhujun Fang, Dezhan Tu, Jiawei Yang, Yiting Shao, Kun Wang, Xiang 'Anthony' Chen, Lei He  
Proceedings of the IUI '21: 26th International Conference on Intelligent User Interfaces, 2021
- 2021 CHI Revamp: Enhancing Accessible Information Seeking Experience of Online Shopping for Blind or Low Vision Users.  
Ruolin Wang, Zixuan Chen, Mingrui Ray Zhang, Zhaocheng Li, Zhixiu Liu, Zihan Dang, Chun Yu, Xiang 'Anthony' Chen  
Proceedings of the CHI '21: CHI Conference on Human Factors in Computing Systems, 2021
- 2021 CHI What Makes Videos Accessible to Blind and Visually Impaired People?  
Xingyu Liu, Patrick Carrington, Xiang 'Anthony' Chen, Amy Pavel  
Proceedings of the CHI '21: CHI Conference on Human Factors in Computing Systems, 2021

|      |      |  |
|------|------|--|
| 2020 | VRST | <p>DualVib: Simulating Haptic Sensation of Dynamic Mass by Combining Pseudo-Force and Texture Feedback.</p> <p>Yudai Tanaka, Arata Horie, Xiang 'Anthony' Chen</p> <p>Proceedings of the VRST '20: 26th ACM Symposium on Virtual Reality Software and Technology, 2020</p>   |
| 2020 | UIST | <p>Geno: A Developer Tool for Authoring Multimodal Interaction on Existing Web Applications.</p> <p>Ritam Jyoti Sarmah, Yunpeng Ding, Di Wang, Cheuk Yin Phipson Lee, Toby Jia-Jun Li, Xiang 'Anthony' Chen</p> <p>Proceedings of the UIST '20: The 33rd Annual ACM Symposium on User Interface Software and Technology, 2020</p>  |
| 2020 | UIST | <p>Romeo: A Design Tool for Embedding Transformable Parts in 3D Models to Robotically Augment Default Functionalities.</p> <p>Jiahao Li, Meilin Cui, Jeeun Kim, Xiang 'Anthony' Chen</p> <p>Proceedings of the UIST '20: The 33rd Annual ACM Symposium on User Interface Software and Technology, 2020</p>   |
| 2020 | CHI  | <p>OralCam: Enabling Self-Examination and Awareness of Oral Health Using a Smartphone Camera.</p> <p>Yuan Liang, Hsuan-Wei Fan, Zhujun Fang, Leiying Miao, Wen Li, Xuan Zhang, Weibin Sun, Kun Wang, Lei He, Xiang Anthony Chen</p> <p>Proceedings of the CHI '20: CHI Conference on Human Factors in Computing Systems, 2020</p> <p><b>Best Paper Honorable Mention Award</b></p> |
| 2020 | CHI  | <p>CheXplain: Enabling Physicians to Explore and Understand Data-Driven, AI-Enabled Medical Imaging Analysis.</p> <p>Yao Xie, Melody Chen, David Kao, Ge Gao, Xiang 'Anthony' Chen</p> <p>Proceedings of the CHI '20: CHI Conference on Human Factors in Computing Systems, 2020</p>   |
| 2019 | UIST | <p>Robiot: A Design Tool for Actuating Everyday Objects with Automatically Generated 3D Printable Mechanisms.</p> <p>Jiahao Li, Jeeun Kim, Xiang 'Anthony' Chen</p> <p>Proceedings of the 32nd Annual ACM Symposium on User Interface Software and Technology, 2019</p>  |
| 2019 | SUI  | <p>Minuet: Multimodal Interaction with an Internet of Things.</p> <p>Runchang Kang, Anhong Guo, Gierad Laput, Yang Li, Xiang 'Anthony' Chen</p> <p>Proceedings of the Symposium on Spatial User Interaction, 2019</p>  |
| 2018 | UIST | <p>Orecchio: Extending Body-Language through Actuated Static and Dynamic Auricular Postures.</p> <p>Da-Yuan Huang, Teddy Seyed, Linjun Li, Jun Gong, Zhihao Yao, Yuchen Jiao, Xiang 'Anthony' Chen, Xing-Dong Yang</p> <p>Proceedings of the 31st Annual ACM Symposium on User Interface Software and Technology, 2018</p>   |
| 2018 | CHI  | <p>WrisText: One-handed Text Entry on Smartwatch using Wrist Gestures.</p> <p>Jun Gong, Zheer Xu, Qifan Guo, Teddy Seyed, Xiang 'Anthony' Chen, Xiaojun Bi, Xing-Dong Yang</p> <p>Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 2018</p> <p><b>Best Paper Honorable Mention Award</b></p>  |
| 2018 | CHI  | <p>Forte: User-Driven Generative Design.</p>   |

- Xiang 'Anthony' Chen, Ye Tao, Guanyun Wang, Runchang Kang, Tovi Grossman, Stelian Coros, Scott E. Hudson  
 Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 2018
- 2018 CHI Medley: A Library of Embeddables to Explore Rich Material Properties for 3D Printed Objects.  
 Xiang 'Anthony' Chen, Stelian Coros, Scott E. Hudson  
 Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 2018
- 2018 CHI Thermorph: Democratizing 4D Printing of Self-Folding Materials and Interfaces.  
 Byoungkwon An, Ye Tao, Jianzhe Gu, Tingyu Cheng, Xiang 'Anthony' Chen, Xiaoxiao Zhang, Wei Zhao, Youngwook Do, Shigeo Takahashi, Hsiang-Yun Wu, Teng Zhang, Lining Yao  
 Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 2018
- 2017 TOCHI Improv: An Input Framework for Improvising Cross-Device Interaction by Demonstration.  
 Xiang 'Anthony' Chen, Yang Li  
 ACM Trans. Comput. Hum. Interact., 2017
- 2017 CHI Facade: Auto-generating Tactile Interfaces to Appliances.  
 Anhong Guo, Jeeun Kim, Xiang 'Anthony' Chen, Tom Yeh, Scott E. Hudson, Jennifer Mankoff, Jeffrey P. Bigham  
 Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems, 2017
- 2016 UIST VizLens: A Robust and Interactive Screen Reader for Interfaces in the Real World.  
 Anhong Guo, Xiang 'Anthony' Chen, Haoran Qi, Samuel White, Suman Ghosh, Chieko Asakawa, Jeffrey P. Bigham  
 Proceedings of the 29th Annual Symposium on User Interface Software and Technology, 2016
- 2016 UIST Bootstrapping User-Defined Body Tapping Recognition with Offline-Learned Probabilistic Representation.  
 Xiang 'Anthony' Chen, Yang Li  
 Proceedings of the 29th Annual Symposium on User Interface Software and Technology, 2016
- 2016 UIST Reprise: A Design Tool for Specifying, Generating, and Customizing 3D Printable Adaptations on Everyday Objects.  
 Xiang 'Anthony' Chen, Jeeun Kim, Jennifer Mankoff, Tovi Grossman, Stelian Coros, Scott E. Hudson  
 Proceedings of the 29th Annual Symposium on User Interface Software and Technology, 2016
- 2016 IUI SweepSense: Ad Hoc Configuration Sensing Using Reflected Swept-Frequency Ultrasonics.  
 Gierad Laput, Xiang 'Anthony' Chen, Chris Harrison  
 Proceedings of the 21st International Conference on Intelligent User Interfaces, 2016
- 2016 GI Twist 'n' Knock: A One-handed Gesture for Smart Watches.  
 Vikram Cannanure, Xiang 'Anthony' Chen, Jennifer Mankoff  
 Proceedings of the 42nd Graphics Interface Conference, Victoria, BC, Canada, 1-3 June 2016, 2016
- 2016 CHI Snap-To-It: A User-Inspired Platform for Opportunistic Device Interactions.  
 Adrian A. de Freitas, Michael Nebeling, Xiang 'Anthony' Chen, Junrui Yang, Akshaye Shreenithi Kirupa Karthikeyan Ranithangam, Anind K. Dey  
 Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, 2016

- 2015 UIST 3D Printed Hair: Fused Deposition Modeling of Soft Strands, Fibers, and Bristles.  
Gierad Laput, Xiang 'Anthony' Chen, Chris Harrison  
Proceedings of the 28th Annual ACM Symposium on User Interface Software & Technology, 2015
- 2015 UIST Encore: 3D Printed Augmentation of Everyday Objects with Printed-Over, Affixed and Interlocked Attachments.  
Xiang 'Anthony' Chen, Stelian Coros, Jennifer Mankoff, Scott E. Hudson  
Proceedings of the 28th Annual ACM Symposium on User Interface Software & Technology, 2015
- 2015 MobileHCI Typing on Glasses: Adapting Text Entry to Smart Eyewear.  
Tovi Grossman, Xiang 'Anthony' Chen, George W. Fitzmaurice  
Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services, 2015
- 2014 UIST Skin buttons: cheap, small, low-powered and clickable fixed-icon laser projectors.  
Gierad Laput, Robert Xiao, Xiang 'Anthony' Chen, Scott E. Hudson, Chris Harrison  
Proceedings of the 27th Annual ACM Symposium on User Interface Software and Technology, 2014
- 2014 UIST Sensing techniques for tablet+stylus interaction.  
Ken Hinckley, Michel Pahud, Hrvoje Benko, Pourang Irani, François Guimbretière, Marcel Gavrilu, Xiang 'Anthony' Chen, Fabrice Matulic, William Buxton, Andrew Wilson  
Proceedings of the 27th Annual ACM Symposium on User Interface Software and Technology, 2014  
**Best Paper Award**
- 2014 UIST Air+touch: interweaving touch & in-air gestures.  
Xiang 'Anthony' Chen, Julia Schwarz, Chris Harrison, Jennifer Mankoff, Scott E. Hudson  
Proceedings of the 27th Annual ACM Symposium on User Interface Software and Technology, 2014
- 2014 UIST Swipeboard: a text entry technique for ultra-small interfaces that supports novice to expert transitions.  
Xiang 'Anthony' Chen, Tovi Grossman, George W. Fitzmaurice  
Proceedings of the 27th Annual ACM Symposium on User Interface Software and Technology, 2014
- 2014 MobileHCI Around-body interaction: sensing & interaction techniques for proprioception-enhanced input with mobile devices.  
Xiang 'Anthony' Chen, Julia Schwarz, Chris Harrison, Jennifer Mankoff, Scott E. Hudson  
Proceedings of the 16th international conference on Human-computer interaction with mobile devices & services, 2014
- 2014 CHI Duet: exploring joint interactions on a smart phone and a smart watch.  
Xiang 'Anthony' Chen, Tovi Grossman, Daniel J. Wigdor, George W. Fitzmaurice  
Proceedings of the CHI Conference on Human Factors in Computing Systems, 2014  
**Best Paper Award**
- 2013 GI Motion and context sensing techniques for pen computing.  
Ken Hinckley, Xiang 'Anthony' Chen, Hrvoje Benko  
Proceedings of the Graphics Interface 2013, 2013

- 2012 MobileHCI Extending a mobile device's interaction space through body-centric interaction.  
Xiang 'Anthony' Chen, Nicolai Marquardt, Anthony Tang, Sebastian Boring, Saul Greenberg  
Proceedings of the Mobile HCI '12, 2012
- 2012 MobileHCI The fat thumb: using the thumb's contact size for single-handed mobile interaction.  
Sebastian Boring, David Ledo, Xiang 'Anthony' Chen, Nicolai Marquardt, Anthony Tang, Saul Greenberg  
Proceedings of the Mobile HCI '12, 2012
- 2012 AVI Spalendar: visualizing a group's calendar events over a geographic space on a public display.  
Xiang 'Anthony' Chen, Sebastian Boring, Sheelagh Carpendale, Anthony Tang, Saul Greenberg  
Proceedings of the International Working Conference on Advanced Visual Interfaces, 2012
- Magazine Articles*
- 2019 CACM Consumer-grade fabrication and its potential to revolutionize accessibility.  
Jennifer Mankoff, Megan Hofmann, Xiang 'Anthony' Chen, Scott E. Hudson, Amy Hurst, Jeeun Kim  
Commun. ACM, 2019
- Workshop, Demo, Work-in-Progress, Poster, and Consortium Papers*
- 2020 UIST Counterweight: Diversifying News Consumption.  
Eric Balagtas Perez, James King, Yugo H. Watanabe, Xiang 'Anthony' Chen  
Proceedings of the UIST '20 Adjunct: The 33rd Annual ACM Symposium on User Interface Software and Technology, 2020
- 2019 IUI Outlining the Design Space of Explainable Intelligent Systems for Medical Diagnosis.  
Yao Xie, Xiang 'Anthony' Chen, Ge Gao  
Proceedings of the Joint Proceedings of the ACM IUI 2019 Workshops co-located with the 24th ACM Conference on Intelligent User Interfaces (ACM IUI 2019), 2019
- 2019 IUI Automatic exam grading by a mobile camera: snap a picture to grade your tests.  
Benjamin Wagstaff, Chiao Lu, Xiang 'Anthony' Chen  
Proceedings of the 24th International Conference on Intelligent User Interfaces: Companion, 2019
- 2018 CHI Demonstrating Thermorph: Democratizing 4D Printing of Self-Folding Materials and Interfaces.  
Ye Tao, Jianzhe Gu, Byoungkwon An, Tingyu Cheng, Xiang 'Anthony' Chen, Xiaoxiao Zhang, Wei Zhao, Youngwook Do, Teng Zhang, Lining Yao  
Proceedings of the Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems, 2018
- 2016 TEI Making Fabrication Real.  
Xiang 'Anthony' Chen  
Proceedings of the 29th Annual Symposium on User Interface Software and Technology, 2016
- 2015 CHI ApplianceReader: A Wearable, Crowdsourced, Vision-based System to Make Appliances Accessible.  
Anhong Guo, Xiang 'Anthony' Chen, Jeffrey P. Bigham  
Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems, 2015

|      |     |   |
|------|-----|---|
| 2012 | TEI | Body-centric interaction with mobile devices.<br>Xiang 'Anthony' Chen<br>Proceedings of the 6th International Conference on Tangible and Embedded Interaction<br>2012, 2012 |
|------|-----|---|

## Patents

|      |   |
|------|---|
| 2022 | Method of Fabricating Soft Fibers Using Fused Deposition Modeling<br>Gierad Laput, Christopher Harrison, and Xiang 'Anthony' Chen<br>U.S. Patent Application 15/772,193, issued filed April 5, 2022 |
| 2019 | Cross-device interaction through user-demonstrated gestures<br>Yang Li, and Xiang 'Anthony' Chen<br>U.S. Patent 10,234,953, issued March 19, 2019   |
| 2018 | Techniques For Interacting With Wearable Devices<br>Tovi Grossman, Xiang 'Anthony' Chen, George Fitzmaurice<br>U.S. Patent 10,082,953, issued September 25, 2018                                    |
| 2015 | Techniques For Interacting With Handheld Devices<br>Tovi Grossman, Daniel Wigdor, George Fitzmaurice<br>U.S. Patent 20,150,153,928, issued June 4, 2015   |
| 2015 | Motion and context sharing for pen-based computing inputs<br>Hrvoje Benko, Xiang Chen, and Kenneth Paul Hinckley<br>U.S. Patent 9,201,520, issued December 1, 2015.                                 |

## Funding

|             |                       |   |
|-------------|-----------------------|---|
|             | <i>Total to-date:</i> | \$1,390,571   |
| 2022 - 2023 | \$60,000              | Google Research Scholar Award<br>Xiang 'Anthony' Chen (Sole PI)   |
| 2022        | \$20,000              | Adobe gift funding<br>Xiang 'Anthony' Chen (Sole PI)  |
| 2022 - 2025 | \$510,000             | ONR Young Investigator Award: Knowledge Extraction from Human Interaction with AI<br>Xiang 'Anthony' Chen (Sole PI) |
| 2021 - 2026 | \$548,111             | NSF CAREER: Expanding the Interaction Bandwidth between Physicians and AI<br>Xiang 'Anthony' Chen (Sole PI)         |
| 2021        | \$19,500              | Hellman Fellowship: Enabling an Ecosystem of Human-Centered Medical AI<br>Xiang 'Anthony' Chen (Sole PI)            |
| 2021        | \$20,000              | Adobe gift funding<br>Xiang 'Anthony' Chen (Sole PI)  |
| 2019 - 2021 | \$200,460             | Xiang 'Anthony' Chen (Sole PI)  |



NSF CRII: CHS: Techniques for Helping Domain Experts Understand and Improve Models Underlying Intelligent Systems

|      |         |  |
|------|---------|--|
| 2019 | \$5,000 | Meta Technology Pte. Ltd. (Singapore) gift funding<br>Xiang 'Anthony' Chen (Sole PI) |
| 2019 | \$7,500 | Adobe gift funding<br>Xiang 'Anthony' Chen (Sole PI)                                 |

## Press

### *Research Conducted or Led by Me*

|      |                              |   |
|------|------------------------------|---|
| 2021 | Wall Street Journal          | Let's Redesign the Laptop for a Work-From-Home Era                                      |
| 2019 | New Scientists               | Turn any object into a robot using this program and a 3D printer                        |
| 2019 | ACM TechNews                 | Turn any object into a robot using this program and a 3D printer                        |
| 2019 | Hackster.io                  | Robiot Is a Design Tool That Generates Mechanisms to Motorize Everyday Objects          |
| 2019 | Innovation Cloud             | Innovation that will turn everyday objects into robots                                  |
| 2019 | Fabbaloo                     | Robiot Can Automatically Design Handy Household Machines                                |
| 2018 | 3ders.org                    | Forté: user-driven generative design tool for easy optimization of 3D printed objects   |
| 2018 | All3DP                       | Forté Lets you Draw in 2D, Creates 3D Generative Designs Automatically                  |
| 2018 | 3DShoes.com                  | Forté Design Tool   |
| 2018 | FutureLab3D                  | Forte: user-driven generative design tool for easy optimization of 3D printed objects   |
| 2018 | 3D Adept                     | Forte, the generative design tool that will ease the optimization of 3D printed objects |
| 2018 | 3dimensions.kr               | 3D design software that makes your design look like: Forté (Translated from Korean)     |
| 2018 | STAMPARE IN 3D               | Anthony Chen e lo strumento di disegno interattivo Forté                                |
| 2016 | Branchema-<br>gasinet UDKOM. | 3D-printere reparerer ting  |
| 2016 | DIY 3D Printing              | Encore 3D Printing Upgrades for Everyday Objects  |
| 2015 | 3dprint.com                  | Sustainable 3D Printing Methods Add to or Subtract from Existing Objects                |
| 2015 | New Scientists               | 3D print extra bits for old objects to help extend their life                           |
| 2015 | 3ders.org                    | Researchers develop Encore tool for augmenting everyday objects with 3D printing        |
| 2015 | 3dprint.com                  | Encore: Research Allows for 3D Printed Augmentation of Everyday Objects                 |
| 2015 | 3dtectonix.com               | Encore WebGL-Based Tool and 3D Printing Improve Everyday Objects                        |
| 2014 | labs.blogs.com               | Duet: Exploring Joint Interactions on a Smart Phone and a Smart Watch                   |
| 2013 | sourcebits.com               | How an Innovative Mobile Interaction Concept Could Benefit Enterprises                  |

### *Research collaborated with others*

|      |   |
|------|---|
| 2018 | Orecchio (collaborated with Xing-Dong Yang's group)<br>EureAlert, Phys.Org, Dartmouth Press                         |
| 2018 | WrisText (collaborated with Xing-Dong Yang's group)<br>Discovery's Daily Planet, QUARTZ, Weather Science, EureAlert |
| 2018 | Theromorph (collaborated with Lining Yao's group)<br>CMU News, dezeen, ZDNet, ALL3DP                                |
| 2016 | SweepSense (collaborated with Gierad Laput)<br>R&D Magazine, MIT Technology Review                                  |
| 2016 | Snap to It (collaborated with Adrian de Freitas)<br>MIT Technology Review   |

|      |   |
|------|---|
| 2015 | 3D Printed Hair (collaborated with Gierad Laput)<br>Fast Company, CNET, Gizmodo, Hackaday, MIT Technology Review, Engadget, Plastics Today, New York Magazine |
| 2014 | Skin Buttons (collaborated with Gierad Laput)<br>New York Times, TechCrunch, WIRED, Fast Company, New Scientist, Gizmodo, CBC                                 |
| 2014 | Tablet+Stylus Interaction (collaborated with Ken Hinckley)<br>FastCo Design's #2 User Interface Innovation of 2014  |
| 2012 | The Fat Thumb (collaborated with Sebastian Boring)<br>PC World, Engadget, Gizmodo, etc.   |

## Talks

|      |  |
|------|--|
| 2022 | Expanding the Interaction Bandwidth Between Human and AI<br>Center for Psychological Sciences at Zhejiang University. (hosted by Liezhong Ge)  |
| 2020 | Expanding the Interaction Bandwidth Between Human and AI<br>Snap Research, U.S. (hosted by Rajan Vaish)  |
| 2020 | Expanding the Interaction Bandwidth Between Human and AI<br>Salesforce Research (hosted by Wenhao Liu)   |
| 2020 | Expanding the Interaction Bandwidth Between Human and AI<br>Media Arts and Technology Seminar, UC Santa Barbara  |
| 2019 | Expanding the Interaction Bandwidth Between Human and AI<br>Tsinghua University (hosted by Chun Yu)<br>Peking University (hosted by Yizhou Wang)<br>Fudan University (hosted by Tun Lu)<br>Tongji University (hosted by Yang Shi)<br>Sun Yat-Sen University<br>South China University of Technology (hosted by C. L. Philip Chen)<br>Xiamen University (hosted by Junfeng Yao) |
| 2019 | Designing Explainable Intelligent Systems<br>The 5th Summer School on Computational Interaction, New York, U.S.  |
| 2018 | Computational Tool Support for Mass Customization<br>FXPAL, Palo Alto, U.S. (hosted by Daniel Avrahami)  |
| 2017 | Computational Design and Fabrication to Augment Everyday Objects<br>Dartmouth College, Hanover, U.S. (hosted by Xing-Dong Yang)  |
| 2016 | Body-Centric Interaction with Mobile and Wearable Devices<br>Body Hacking Con 2016, Austin, U.S.   |
| 2015 | Enabling End-User Creativity with New Fabrication Techniques<br>X-Studio, Tsinghua University, Beijing, China (hosted by Ying-Qing Xu)   |

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|------|---|
| 2015 | Duet: Exploring Joint Interactions on a Smart Phone and a Smart Watch<br>Midwest UX 2015, Pittsburgh, U.S.  |
| 2015 | Snap-to-It: Using Mobile Cameras To Opportunistically Connect & Interact With An Internet Of Things<br>QualComm, San Diego, U.S                                 |
| 2013 | Motion and Context Sensing for Pen Computing<br>David R. Cheriton School of Computer Science, University of Waterloo, Waterloo, Canada (hosted by Daniel Vogel) |
| 2013 | Motion and Context Sensing for Pen Computing<br>Dynamic Graphics Project, University of Toronto, Toronto, Canada (hosted by Daniel Wigdor)                      |
| 2013 | Motion and Context Sensing for Pen Computing<br>Autodesk Research, Toronto, Canada (hosted by Tovi Grossman)  |
| 2013 | Around-Body Interaction<br>Hasso-Plattner-Institut, Berlin, Germany (hosted by Patrick Baudisch)  |
| 2013 | Around-Body Interaction<br>QualComm, San Diego, U.S.  |

### Teaching and Mentoring

|                           |             |   |
|---------------------------|-------------|---|
| <i>Corse Instructor</i>   |             |   |
| 2020 -                    | ECE 188     | Interactive & Applied Machine Learning<br>ECE Department, UCLA                                  |
| 2019 -                    | CS/ECE M119 | Fundamental of Networked Embedded Systems<br>ECE Department, UCLA                               |
| 2018 -                    | ECE 209AS   | Human-Computer Interaction<br>ECE Department, UCLA  |
| <i>Teaching Assistant</i> |             |   |
| 2015                      | 05430       | Programming Usable Interfaces<br>School of Computer Science, Carnegie Mellon University         |
| 2014                      | 05410       | User-Centered Research and Evaluation<br>School of Computer Science, Carnegie Mellon University |
| 2010                      | CPSC 481    | Human Computer Interaction I<br>Department of Computer Science, University of Calgary           |

### *Ph.D. Students Mentored at UCLA*

|        |                 |   |
|--------|-----------------|---|
| 2022 - | Youngseung Jeon | AI-Enabled Creativity Support Tools   |
| 2020 - | Xingyu Liu      | Augmenting Human Activities with Proactive AI<br><b>ECE Distinguished Master Thesis Award</b> |
| 2019 - | Ruolin Wang     | Making Information Accessible to Break the Cycle of Exclusion in Society                      |
| 2019 - | Noyan Evirgen   | Human-Centered, Interactive Generative AI   |
| 2018 - | Hongyan Gu      | Supporting Diagnosis of Pathologists with Human-AI Collaboration                              |

2018 - Jiahao Li Making Physical Objects Interactive with Low-cost Sensing and Robotic Augmentation

*Master Students Mentored at UCLA*

2018 - Wayne Zhang Crowd-powered accessible online videos  
 Roy Jara AI-enabled expressive writing  
 Yifan Xu Human-AI collaboration for pathology  
 Yao Xie Explainable AI-enabled radiology  
 Yunpeng Ding Explaining algorithms using question-answering  
 Ritam Sarmah Programming tools for voice input  
 Carlo Rebanal Explaining algorithms using question-answering  
 Amirali Omidfar Finger-worn camera interaction with IoTs  
 Ximeng Liu Finger-worn camera interaction with IoTs  
 Nicolas Cheng Finger-worn camera interaction with IoTs

*Undergraduate Students Mentored at UCLA*

2018 - Alexiy Samoylov Making everyday objects more manipulable by robots  
 James King Diversifying news consumption  
 Eric Perez Diversifying news consumption  
 Jingbin Huang Human-AI collaboration for pathology  
 Melody Chen Explainable AI-enabled radiology  
 David Kao Explainable AI-enabled radiology  
 Ben Wagstaf Automatic exam grading using a mobile camera  
 Joseph Lu Automatic exam grading using a mobile camera  
 Zixuan Chen Making online products visually accessible to blind people  
 Jordan Combitsis Explaining algorithms using question-answering  
 Phipson Lee Explaining algorithms using question-answering

*Intern & Visiting Students Mentored at UCLA*

2019 - Zihan Yan Wearable sensing of emotional states  
 Hsuan-wei Fan Detecting oral diseases with a mobile camera  
 Mina Huh Making video editing accessible to blind people  
 Xiao Fan Low-cost sensor-equipped stethoscope  
 Bowen Zhang Physical therapy using a webcam

*Students Mentored During Ph.D. Study at CMU*

2015 - 2017 Runchang Kang User-driven generative design  
 Vikram Cannanure Knocking gestures for smart watches

**Service**

*Ph.D. Thesis Committee (other than my students)*

2020 - Tonmoy Monsoor ECE Department, UCLA  
 Mahmoud Essalat ECE Department, UCLA  
 Vikranth Jeyakumar ECE Department, UCLA  
 Haisong Lin ECE Department, UCLA  
 Migyeong Gwak CS Department, UCLA  
 Weinan Song ECE Department, UCLA

*M.S. Thesis Committee*

2020 - Oyku Bozkurt ECE Department, UCLA  
 Steve Mendoza ECE Department, UCLA

|                 |                      |
|-----------------|----------------------|
| Siyu Pei        | ECE Department, UCLA |
| Swapnil S. Saha | ECE Department, UCLA |
| Amirali Omidfar | ECE Department, UCLA |
| Akash Singh     | ECE Department, UCLA |

*Pre-college Education*

|      |   |
|------|---|
| 2020 | Judge for International Science and Engineering Fair (for high school students) |
|------|---|

*Review Panel*

|        |                             |
|--------|-----------------------------|
| 2021 - | National Science Foundation |
|--------|-----------------------------|

*Editorial Board*

|      |     |  |
|------|-----|--|
| 2020 | ISS | Proceedings of the ACM on Human-Computer Interaction |
|------|-----|--|

*Program Committee*

|             |            |   |
|-------------|------------|---|
| 2019 - 2023 | CHI        | ACM CHI Conference on Human Factors in Computing Systems                    |
| 2021 - 2022 | CSCW       | ACM Conference on Computer-Supported Cooperative Work and Social Computing  |
| 2019 - 2021 | UIST       | ACM Symposium on User Interface Software and Technology                     |
| 2019        | IUI        | ACM International Conference on Intelligent User Interfaces                 |
| 2018        | ISS        | ACM International Conference on Interactive Surfaces and Spaces             |
| 2018 - 2019 | ChineseCHI | International Symposium of Chinese CHI                                      |
| 2016        | CHI LBW    | ACM CHI Conference on Human Factors in Computing Systems Late Breaking Work |

*Organizing Committee*

|             |         |   |
|-------------|---------|---|
| 2021        | UIST    | Doctoral Consortium Chair                           |
| 2020        | UIST    | Proceeding Chair                                    |
| 2019 - 2020 | ISS     | Publicity Chair                                     |
| 2020        | ECE ARR | UCLA ECE Department Annual Research Review Co-Chair |

*External Reviewer*

|             |           |   |
|-------------|-----------|---|
| 2013 - 2018 | CHI       | ACM CHI Conference on Human Factors in Computing Systems                              |
| 2013 - 2022 | UIST      | ACM Symposium on User Interface Software and Technology                               |
| 2014 - 2016 | CSCW      | ACM Conference on Computer-Supported Cooperative Work and Social Computing            |
| 2014 - 2019 | TOCHI     | ACM Transactions on Computer-Human Interaction  |
| 2019        | SIGGRAPH  | International Conference on Computer Graphics and Interactive Techniques              |
| 2013 - 2020 | MobileHCI | International Conference On Human-Computer Interaction With Mobile Devices & Services |
| 2013 - 2016 | TEI       | ACM International Conference on Tangible, Embedded and Embodied Interaction           |
| 2015        | ISWC      | ACM International Symposium on Wearable Computers                                     |
| 2016        | Ubicomp   | ACM International Joint Conference on Pervasive and Ubiquitous Computing              |
| 2017 - 2018 | IMWUT     | Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies   |
| 2014 - 2019 | DIS       | ACM SIGCHI Conference on Designing Interactive Systems                                |
| 2013 - 2015 | ITS       | ACM International Conference on Interactive Tabletops and Surfaces                    |
| 2012 - 2016 | GI        | Annual Conference on Graphics Interface   |
| 2013        | MUM       | International Conference on Mobile and Ubiquitous Multimedia                          |
| 2014        | CHI PLAY  | Annual Symposium on Computer-Human Interaction in Play                                |
| 2014 - 2015 | SUI       | ACM Symposium on Spatial User Interaction   |
| 2014 - 2015 | IUI       | ACM International Conference on Intelligent User Interfaces                           |
| 2015 - 2017 | TVX       | ACM International Conference on Interactive Media Experiences                         |
| 2015        | EICS      | ACM SIGCHI Symposium on Engineering Interactive Computing Systems                     |
| 2015        | IDC       | Interaction Design and Children Conference  |
| 2016 - 2020 |           | IEEE Pervasive Computing  |
| 2017 - 2021 | IJHCS     | International Journal of Human-Computer Studies                                       |

|      |              |   |
|------|--------------|---|
| 2018 | IJHCI        | International Journal of Human–Computer Interaction                 |
| 2015 | EuroGraphics | Annual Conference of the European Association for Computer Graphics |
| 2018 | C&G          | Computers & Graphics  |
| 2019 | AT           | Assistive Technology  |
| 2017 | TMC          | IEEE Transactions on Mobile Computing                               |
| 2015 | C&C          | ACM Conference on Creativity & Cognition                            |
| 2020 |              | NPJ Digital Medicine  |

*Special Recognition as a Reviewer*

|             |          |  |
|-------------|----------|--|
| 2015 - 2016 | CHI      | ACM CHI Conference on Human Factors in Computing Systems                 |
| 2015 - 2016 | UIST     | ACM Symposium on User Interface Software and Technology                  |
| 2016        | Ubicomp  | ACM International Joint Conference on Pervasive and Ubiquitous Computing |
| 2014        | CHI PLAY | Annual Symposium on Computer-Human Interaction in Play                   |