

Curriculum Vitae

Dr. Min Fan /Associate Professor

School of Animation and Digital Art/ Communication University of China /Beijing, China
mfan@cuc.edu.cn min-fan.com +86 139.1199.4978

Educational Background

- Simon Fraser University, 2012-2017
Ph.D. at School of Interactive Arts & Technology
- Centre for Digital Media (UBC, SFU, Emily Carr, BCIT), 2010-2012
Master of Digital Media, M.D.M.
- Communication University of China, 2009-2012
Digital Media Arts, M.A.
- Communication University of China, 2005-2009
Digital Media Arts, B.A (Honored)

Professional Experience

- School of Animation and Digital Art, Communication University of China
2022.01- Current Associate Professor
Obtained National Social Science Fund of China and Beijing Novel Program Grants (\$145,000)
Developed graduate courses on *Design Research* and *Research Methodologies*
Worked as a CHI AC and organized IDC and Chinese CHI workshops
- School of Animation and Digital Art, Communication University of China
2019.12- 2022.01 Assistant Professor
Wrote proposal for research grants
Developed undergraduate course *Fundamentals of Interaction Design*
Developed tangible learning products for disadvantaged children
- School of Design and Innovation, China Academy of Art
2019.06- 2019.07 Instructor
Conducted a 30-day collective teaching workshop with teachers from Parsons School of Design
Planned the final exhibition on Speculative Urban City.
- Tangible, Embodied, and Child Interaction (TECI) Lab, Simon Fraser University
2017.03- 2018.12 Postdoctoral Fellowship
Mentored graduate students and helped to manage TECI lab
Wrote proposal for research grants
Developed child-centric tangible learning products and implemented prototypes

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- **School of Interactive Arts & Technology, Simon Fraser University**
2012.09-2017.02 Interaction Designer & Research Assistant
Developed tangible learning products and implemented hardware and software of the prototypes
Conducted design research including administering field studies and analyzing multiple datasets using mixed methods
Reviewed and published papers in HCI conferences including CHI, TEI, IDC, and ACM Group
- **Centre for Digital Media**
2010.09-2012.06 Interaction Designer & Motion Graphic Designer
Pitched concept and designed interaction flow for an IOS location-based English-language learning application
Produced an educational interactive narrative for DreamRider Productions
Designed UI and interaction of website for Dotstudioz Inc.
- **The Beijing Organizing Committee for the Games of the XXIX Olympiad**
2007.05-2008.10 Video Editor and Video Director (Intern)
Responsible for all video highlights editing work for hockey and swimming teams
Management of video footage and assets
Helped producers to set production guidelines

Teaching Courses

- Fundamental of Interaction Design (64 units, undergraduates)
- Design Research (32 units, graduates)
- Research Methodologies (32 units, graduates)
- Creative Media and Technologies (48 units, PhD students)

Research Interests and Projects

My research interests are child-centric and tangible interaction design. My research work contributes to the interaction design for children (IDC) and tangible, embedded (embodied) interaction (TEI) communities through results from theoretical explorations, the development of child-specific tangible applications, and empirically derived design guidelines for tangible user interfaces.

My current research projects focused on (1) the design of AI user interfaces for children with special educational needs (e.g., autism, dyslexia, learning disabilities); or (2) the design and evaluation of immersive learning environments (e.g., immersive VR) for young adults.

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- **EmoStory: an interactive narrative that supports children with autism in learning emotions and facial expressions**
2018-Current, Principal Investigator
- **Codesigning virtual tutors in a mobile language learning app with children with ASD**
2021-Current, Principal Investigator
- **Co-Space: a tangible system supporting social attention and social behavioral development through embodied play for children with ASD**
2022-2023, Principal Investigator
- **CharacterAlive: a tangible reading and writing system for Chinese children at-risk for dyslexia**
2019-Current, Principal Investigator
- **Immersive *Spring Morning in the Han Palace*: learning traditional Chinese art via virtual reality**
2019-2020, Principal Investigator
- **AR Reading Systems: augmented reality system series that support early reading acquisition for children**
2019-2020, Principal Investigator
- **PhonoBlocks: tangible and augmented reality systems with dynamic colour cues and 3D tangible letters that support early reading acquisition for children at-risk for dyslexia (PhD project)**
2014-2018, Designer & Researcher
Provided technical solution, iteratively designed the user interfaces, and implemented the physical prototype
Designed and conducted the user studies with children at-risk for dyslexia and children who learn English as a second language to investigate effectiveness of PhonoBlocks in supporting learning to read and spell
Analyzed the data using mixed-methods approach and generalized the design guidelines based on the empirical results
- **Tactile Letters: a tangible tabletop with texture cues supported alphabetic learning for children**
2015-2016, Designer & Researcher
Designed the proof of concept prototype based on the theories of multisensory instruction and cross-modal research
Designed the evaluation methods
- **Youtopia: a hybrid tangible digital (multi-touch) tabletop activity**
2012-2014, Designer & Research Assistant
Conducted the usability testing with children

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Facilitated the user studies with children at an elementary school

Involved in the video-coding data analysis

- **NuBi: location-based English-learning IOS application (Pitched project)**
2012.01—2012.04, Interaction Designer
Pitched the initial idea and concept
Designed user interfaces and interaction flow
- **Keep It Cool: an interactive narrative that helps children to learn sustainability and change behaviours (Industrial project)**
2011-2012, Motion Graphic Designer
Produced eight-minute motion comic animation for an educational interactive narrative
Set up video production pipeline and workflow
Scheduled and tracked animation production

Publications

Journal Articles

- **Fan, M.***, Antle, A.N., Warren, J. Augmented Reality for Early Language Learning: A Systematic Review of AR Application Design, Instructional Strategies, and Evaluation Outcomes. *Journal of Educational Computing Research*.2020;58(6):1059-1100.
- **Fan, M.***, Antle, A.N., Maureen, H. Neustaedter, C. Evaluating PhonoBlocks: A Tangible System Supported for Young English Language Learners. *International Journal Child-Computer Interaction*. 18 (2018), 67-78.
- **Fan, M.***, Alissa A.N., Zhicong Lu. The Use of Short-Video Mobile Apps in Early Childhood: a Case Study of Parental Perspectives in China. *Early Years*, 1-15.
- Jin, S. **Fan, M.***, Kair, A. Immersive Spring Morning in the Han Palace: Learning Traditional Chinese Art Via Virtual Reality and Multi-Touch Tabletop. *International Journal of Human-Computer Interaction*, 2021, 1-14.
- Wu, J., **Fan, M.***, Sheng, L., Sun, G. Exploring the design space of virtual tutors for children with autism spectrum disorder. *Education and Information Technologies*, 1-30.

Full Conference Papers

- **Fan, M.***, Antle, A.N., Maureen, H. Neustaedter, C. Cramer, E.S. Why Tangibility Matters: A Design Case Study of At-Risk Children Learning to Read and Spell. In *Proceedings of Conference on Human Factors in Computing Systems (CHI '17)*, ACM Press, Denver, USA, May 6-11, 2017, 1805-1816. (**Top 5% Honorable Mention Award**)
- **Fan, M.***, Antle, A.N. An English Language Learning Study with Rural Chinese Children Using an Augmented Reality App. *Proceedings of Conference on Interaction Design and Children (IDC'20)*, ACM Press, London, UK, June 21-24, 2020, 385-397.

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- **Fan, M.***, Antle, A.N., Cramer, S. Emily. Design Rationale: Opportunities and Recommendations for Tangible Reading Systems for Children. In *Proceedings of Conference on Interaction Design for Children (IDC '16)*, ACM Press, Manchester, UK, June 21-24, 2016, 102-112.
- **Fan, M.***, Antle, A.N., Neustaedter, C. and Wise, A.F. Exploring How a Co-dependent Tangible Tool Design Supports Collaboration in a Tabletop Activity. In *Proceedings of International Conference on Supporting Group (Group '14)*, ACM Press, Sanibel Island, FL, USA, November 9-12, 2014, 81-90.
- Cramer, E.S., Antle, A.N., **Fan, M.** The Code of Many Colours: Evaluating the Effects of a Dynamic Colour-Coding Scheme on Children's Spelling in a Tangible Software System. In *Proceedings of Conference on Interaction Design for Children (IDC '16)*, ACM Press, Manchester, UK, June 21-24, 2016,473-485.
- Cramer, E.S., Antle, A.N., **Fan, M.** Colouring the Path from Instruction to Practice: Perspectives on Software for Struggling Readers. In *Proceedings of Conference on Interaction Design for Children (IDC '15)*, ACM Press, Medford, MA, USA, June 21-25, 2015, 331-334.
- Wise, A.F., Antle, A.N., Warren, J., May, A., **Fan, M.** and Macaranas, A. What Kind of World Do You Want to Live in?: Positive Interdependence and Collaborative Processes in the Land-use Planning Game YouTopia. In *Proceedings of Conference on Computer Supported Collaborative Learning (CSCL '15)*, ISLS Press, Gothenburg, Sweden, June 7-11, 2015, 236-243.

▪ Short Conference Papers

- **Fan, M.***, Fan, J., Antle, A.N., Jin, S., Character Alive: A Tangible Reading and Writing System for Chinese Children At-risk for Dyslexia. In *Extended Abstracts of Proceedings of Conference on Human Factors in Computing Systems (CHI EA'19)*, ACM Press, Glasgow, Scotland, UK, May 4-9, 2019, LBW113, 1-6.
- **Fan, M.***, Antle, A.N., Cramer, S. Emily. Exploring the Design Space of Tangible Systems Supported for Early Reading Acquisition in Children with Dyslexia. In *Proceedings of Conference on Tangible, Embodied and Embedded Interaction (TEI'16)*, ACM Press, Eindhoven, the Netherlands, February 14-17, 2016, 690-692.
- **Fan, M.***, Antle, A.N., Sarker, S. From Tangible to Augmented Reality: Designing a PhonoBlocks Reading System Using Everyday Technologies. In *Extended Abstracts of Proceedings of Conference on Human Factors in Computing Systems (CHI' EA 18)*, ACM Press, Montreal, April 21-16, 2018, LBW555, 1-4.
- **Fan, M.***, Baishya, U., McLaren, E., Antle, A.N., Sarker, S., Vincent, A. Block Talks: A Tangible and Augmented Reality Toolkit for Children to Learn Sentence Construction. In *Extended Abstracts of Proceedings of Conference on Human Factors in Computing Systems (CHI' EA 18)*, ACM Press, Montreal, April 21-16, 2018, LBW056, 1-4.
- **Fan, M.***, Fan, J., Jin, S., Antle, A.N., Pasquier, P. EmoStory: A Game-based System Supporting Children's Emotional Development. In *Extended Abstracts of Proceedings of Conference on Human Factors in Computing Systems (CHI' EA 18)*, ACM Press, Montreal, April 21-16, 2018, LBW058, 1-4.

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- **Fan, M.***, Jin, S., Antle, A.N. Designing Colour and Materials in Tangible Reading Products for Foreign Language Learners of English. In *Extended Abstracts of Proceedings of Conference on Human Factors in Computing Systems (CHI' EA 18)*, ACM Press, Montreal, April 21-16, 2018, LBW526, 1-4.
- **Fan, M.***, Antle, A.N. Tactile Letters: A Tangible Tabletop with Texture Cues Supporting Alphabetic Learning for Dyslexic Children. In *Proceedings of Conference on Tangible, Embodied and Embedded Interaction (TEI'15)*, ACM Press, Stanford, CA, USA, January 16-19, 2015, 673-678.
- **Fan, M.***, Tong, X., Wen, Yalcin, N., Kim, L., Wu, Z., Benton L. Designing AI Interfaces for Children with Special Needs in Educational Contexts. In *Proceedings of the 22nd Annual ACM Interaction Design and Children Conference (IDC '23)*. ACM Press, New York City, USA, June 19-23, 2023, 801–803.
- **Fan, M.***, Antle, A.N., Wakkary, R. Situated Action as a Theoretical Lens: A Contextual Analysis of a Collaborative Tabletop Activity. Accepted to workshop presentation: From Research to Design: Challenges of Qualitative Data Representation and Interpretation in HCI. In *Proceedings of BCS HCI 2013 – The Internet of Things XXVII*, Uxbridge, UK, September 9-13, 2013.
- Jin, S., **Fan, M.***, Wang Y., Liu Q. Reconstructing Traditional Chinese Paintings with Immersive Virtual Reality. In *Extended Abstracts of Proceedings of Conference on Human Factors in Computing Systems (CHI' EA 20)*, ACM Press, April 25–30, 2020, Honolulu, HI, USA. LBW029, 1-8.
- Zhu, X., **Fan, M.***, Wu, Z., Lu, J., Liu, Y. Co-Space: A Tangible System Supporting Social Attention and Social Behavioral Development through Embodied Play for Children with Autism Spectrum Disorder. In *Proceedings of the 22nd Annual ACM Interaction Design and Children Conference (IDC '23)*. ACM Press, New York City, USA, June 19-23, 2023, 608–613.
- Antle, A.N., **Fan, M.***, Cramer, E.S. PhonoBlocks: A Tangible System for Supporting Dyslexic Children Learning to Read. In *Proceedings of Conference on Tangible, Embodied and Embedded Interaction (TEI'15)*, ACM Press, Stanford, CA, USA, January 16-19, 2015, 533-538.
- Ye, H., Wu, T., Kim, L., **Fan, M.**, and Tong X. WooGu: Exploring an Embodied Tangible User Interface for Supporting Children to Learn Farm-to-Table Food Knowledge. In *Proceedings of the 22nd Annual ACM Interaction Design and Children Conference (IDC '23)*. ACM Press, New York, NY, USA, June 19-23, 2023, 681–687.
- Antle, A.N., Wise, A.F., Willis, A., Tan, P. Nowroozi, S., Eckersley, R., **Fan, M.**, Warren, J. Youtopia: A Collaborative, Tangible, Multi-touch, Sustainability Learning Activity. In *Proceedings of Conference on Interaction Design for Children (IDC '13)*, ACM Press, New York City, USA, June 24-27, 2013, 565-568.
- Wise, A.F., Willis, A., Tan, P. Nowroozi, S., Eckersley, R., **Fan, M.**, Warren, J. Youtopia: A Collaborative, Tangible, Multi-touch, Sustainability Learning Activity. Poster and Demo: *GRAND 2013*. Toronto, Canada, May 2013, 13-17.
- Antle, A.N., Warren, J., Matkin, B.B., **Fan, M.**, Cramer, E.S. Designing Tangibles for Children: One Day Hands-on Workshop. In *Proceedings of Conference on Tangible, Embodied and Embedded Interaction (TEI'16)*, ACM Press, Eindhoven, the Netherlands, February 14-17, 2016, 750-752.

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- Antle, A.N., Warren, J., Cramer, E.S., **Fan, M.**, Matkin, B.B. Designing Tangibles for Children: One Day Hands-on Workshop. In *Proceedings of Conference on Interaction Design for Children (IDC '16)*, ACM Press, Manchester, UK, June 21-24, 2016, 727-730.

Awards

- **CHI'17 Top 5% Honorable Mention Award, 2017**
- **CHI/CSCW Special Recognition for Outstanding Reviews, 2016/2021**
- Vancouver EduHacks, Bronze Award (An Augmented Reality & Tangible Toolkit for Children to Learn English Sentences), 2017
- China Scholarship Council, 2012-2016
- Graduate Fellowships, Simon Fraser University, 2017 Spring
- President's Ph.D. Scholarship, Simon Fraser University, 2016 Spring
- Travel and Minor Research Award, Simon Fraser University, 2013-2017
- Dianne Sinclair Memorial Fellowship, Centre for Digital Media, 2012
- Outstanding Graduate of Communication University of China, 2009
- China National Scholarship, 2007-2008
- Excellent Staff Award in Beijing Organizing Committee for the Games of the XXIX Olympiad, 2008
- Excellent Team Lead in Beijing Organizing Committee for the Games of the XXIX Olympiad, 2008
- Excellent President of Student Union of Communication University of China, 2008
- Outstanding Student Volunteer Team Lead in China (Beijing) International Student Animation Festival, 2008-2009
- Excellent Student Lead of Communication University of China, 2006-2009
- Best Documentary Award (*Dancing in Olympic*) in Panasonic Professional HD Video Competition, 2008
- Best Animation Nomination (*Non-profit Ad for Hepatitis B*) in China (Beijing) International Student Animation Festival, 2008
- Single-curriculum Scholarship of Communication University of China, 2006
- UBC Best Demo Award in Design and Demo Showcase, 2018

Professional Services

▪ Review Services

- Associate Chair (AC) in *the Learning, Education and Families* Subcommittee at the ACM Conference on Human Factors in Computer Systems (CHI), 2022-2024
- Associate Chair (AC) in *the Working-in-Process Paper Session* at the ACM Conference on Interaction Design for Children (IDC), 2022
- Executive Chair (EC) at the 2022 Animation and Digital Art Interactional Conference
- Journal of CoDesign (A&HCI), 2020
- Journal of Computer and Education (SCI& SSCI, Q1), 2017-2018

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- Journal of Educational Computing Research (SSCI, Q2), 2021
- International Journal of Child-Computer Interaction (SJR Q2), 2017-2021
- Personal and Ubiquitous Computing Journal (SJR Q2), 2017
- Australian Journal of Learning Difficulties (SJR Q3), 2019
- ACM Conference on Computer-Supportive Collaborative Work (CSCW), 2021
- NordiCHI Conference, 2018, 2020
- ACM Conference on Designing Interacting Systems (DIS), 2018-2019
- ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play (CHI PLAY), 2014、 2017
- ACM Conference on Tangible, Embodied and Embedded Interaction (TEI), 2014-2019
- ACM Conference on Interaction Design for Children (IDC), 2016-2021x
- ACM Conference on Graphics, Visualization& Human-Computer Interaction (GI), 2015

▪ Volunteer Services

- Career Chat Panel, IDC, 2020
- Student Volunteer in IDS'16 Conference, 2016
- Student Volunteer in Siggraph' 09 Conference, 2009
- Student Volunteer Team Lead in China (Beijing) International Student Animation Festival, 2009
- Student Volunteer Team Lead in China (Beijing) International Student Animation Festival, 2008

Media and Public Presentations

- Invited Presentation in Duke Kunshan University, 2023.03
- Invited Presentation in Macau University of Science and Technology, 2022.11
- Invited Presentation in Central Academy of Fine Arts (CAA), 2021.11
- Invited guest on Centre for Digital Media Interview Series (sharing my research outcomes), 2018.02
- UBC Design Showcase and Poster Session (invited), 2018.06
- Mind-Full project demo at Nepal House Society Gala (invited), 2017.02/2018.02
- Belongings project demo at SFU Open House, 2015.03
- Youtopia project demo at SFU Open House, 2014.04