Assistant Professor of Computation and Design xt43@duke.edu
Duke Kunshan University xintong.ca

Xin Tong

Research Interests

Human-computer interaction, interactive digital media, virtual/augmented reality, games, healthcare technology, data visualization, machine learning, and embodied interaction.

EDUCATION

Simon Fraser University, Canada Ph.D. 2015-20
School of Interactive Arts and Technology
Dissertation: Bodily Resonance: Exploring the Effects of Virtual Embodiment on Pain Modulation and the Fostering of Empathy toward Pain Sufferers
Committee: Diane Gromala, Chris Shaw, Dave Fracchia, Mel Slater (examiner)

Simon Fraser University, Canada M.Sc. 2013-15
School of Interactive Arts and Technology
Thesis: Encouraging Physical Activity with Gamification Approaches
Committee: Diane Gromala, Chris Shaw, Carman Neustaedter

Beijing University of Posts and Telecommunications B.Eng. 2009-13
School of Electronic Engineering

PROFESSIONAL EXPERIENCES

Duke Kunshan University Oct. 2021 - now
Assistant Professor of Computation and Design

Stanford University 2020-2021
Postdoctoral Researcher
Pervasive Wellbeing Technology Lab, School of Medicine
Supervisor: Prof. Pablo Paredes

Simon Fraser University 2013-20
Research and Teaching Assistants
School of Interactive Arts and Technology
Supervisor: Prof. Diane Gromala

Peking University 2018-19
Visiting Scholar, Graduate Student Researcher
School of Psychological and Cognitive Sciences
Supervisor: Prof. Kunlin Wei

Tsinghua University 2012-13
Undergraduate Research Assistant
Institute of Human Computer Interaction and Media Integration
Department of Computer Science and Technology
Supervisors: Prof. Yuanchun Shi, Prof. Chun Yu, Prof. Qiong Wu

Audi China Research & Design Center 2012
Technology Scouting Team, UX Researcher & Designer (part-time)
Asia Electronic Venture in Audi R & D, China
Supervisor: Yi Sun

AWARDS & HONORS

Fellowships and Scholarships

NSERC Postdoctoral Fellowship	2021
SFU Thesis Completion Fellowship (top 1 per school)	2020-21
MITACS Accelerate Internship Scholarship	2020-21
MITACS Research Training Award (2.5% acceptance rate)	2020
4-year C.D. Nelson Memorial Graduate Scholarship	2015-20
4-year Provost Prize of Distinction Award	2015-20
SFU Big Data Graduate Scholarship	2019
4-year SFU Travel & Minor Research Award (TMRA)	2014-19
McQuarrie LLP Chronic Pain Scholarship	2015
GRAND Research Network Vice-President Scholarship	2015
SFU Graduate Fellowship	2014-15
Chinese Ministry of Edu. National Scholarship (1%)	2010-12

Awards

Bill Buxton Award for Outstanding Dissertation in HCI	*Best Dissertation Award*	2022
China-Italy Youth Future Fashion Design Competition (35/1000)	*Excellence Award*	2021
CHI Student Game Competition	*Honorable Mention*	2016
Design Principles & Practices Conference 2015	*Graduate Scholar Award*	2015
Microsoft 'Porting Lab' Event in Unite Conference 2014	*Best Game Award*	2014
PhysComputing Conference 2014	*Best Paper Award*	2014

GRANTS

Company Grant for 3D Virtual Avatar Reconstruction Project	2022
DKU Summer Research Scholars Program (PI)	2022
Duke-DKU HRC Anthropocene XR Lab Grant (co-director)	2022
DKU Interdisciplinary Research Network Award (co-director)	2022
DKU Start-Up Fund for Research	2021

PUBLICATIONS

Journal Articles (Peer-Reviewed)

[J.6] **Tong X.**, Gromala, D., and Wei K. (2020) Exploring the Effect of Virtual Embodiment on Pain Reduction in Healthy Subjects and Complex Regional Syndrome Pain Patients in Virtual Reality. Scientific Reports, *Submitted*. (impact factor: 4.011)

[J.5] **Tong X.**, Diao H., Zeng, S., Gromala, D., and Wei, K. (2020) "Follow me, and let's see the sea!" – A Long-term Field Study to Promote Social Communications for Children with Autism Spectrum Disorders through Online Collaborative Tasks in Minecraft, JMIR Serious Games, *Submitted*. (impact factor: 3.351)

[J.4] **Tong X.**, Wang X., Fan, B., Gromala, D., Williamson, O., and Wei K., (2020) "I Dreamed of My Hands and Arms Moving Again": A Case Series Investigating the Effect of Immersive Virtual Reality on Phantom Limb Pain Alleviation. *Frontiers in Neurology*, *11*, p.876. DOI: 10.3389/fneur.2020.00876 (impact factor: 3.552)

[J.3] **Tong X.**, Gromala, D., Kieai P., and Shaw C., (2020) Designing a Virtual Reality Game for Promoting Empathy Toward Patients With Chronic Pain: Feasibility and Usability Study, JMIR Serious Games 2020;8(3):e17354, doi: 10.2196/17354, PMID: 32763883 (impact factor: 3.351) .

[J.2] **Tong X.**, Gupta, A., Gromala, D., Shaw C., Neustaedter, C., and Choo, A. (2017) Utilizing Gamification Approaches in Pervasive Health: How Can We Motivate Physical Activity Effectively? EAI-Endorsed Transactions on Pervasive Health and Technology, vol. 3, issue 11, e3. (Scopus-indexed)

[J.1] **Tong, X**., Gromala, D., Gupta, D., & Squire, P. (2016). Usability Comparisons of Head-Mounted vs. Stereoscopic Desktop Displays in a Virtual Reality Environment with Pain Patients. Presented In MMVR conference & Journal of Studies in Health Technology Information, 220: pp. 424-431. (impact factor: 0.44)

Book Chapters (Peer-Reviewed)

[B.1] Gromala, D., **Tong, X.**, Shaw, C., & Jin, W. (2018). Immersive virtual reality as a non-pharmacological analgesic for pain management: Pain distraction and pain self-modulation. In Virtual and Augmented Reality: Concepts, Methodologies, Tools, and Applications, pp. 1176-1199. IGI Global.

Full Conference Papers (Peer-Reviewed)

[C.29] **Tong, X.**, Li, Y., Bei, R., Li, J., Zhang, L. (2022) What are People Talking about in #BackLivesMatter and #StopAsianHate? Exploring and Categorizing Twitter Topics Emerged in Online Social Movements through the Latent Dirichlet Allocation Mode. Association for the Advancement of Artificial Intelligence 2022 (AAAI): 16th International Conference on Web and Social Media. *Under review*.

[C.28] Ye, H., Zhang, C., Xu, S., LC, R., **Tong, X.** (2022). Twilight Rohingya: The Design and Evaluation of Active and Passive Navigation Modes in a Refugee VR Environment. The 25th ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW). *Under review*.

[C.27] Bao, X., LC, R., **Tong, X.** (2022) Entangled Habitation: Exploring Plant-Human Interaction Through a More-Than-Human Lens. The 25th ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW). *Under review*.

[C.26] Tang, X., Sun, Y., Zhang, B., Liu, Z., LC, R., Lu, Z., **Tong, X.** (2022). "I Never Imagined Grandma Could Do So Well with Technology": Evolving Roles of Younger Family Members in Older Adults' Technology Learning. The 25th ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW). *Under review*.

[C.25] Wang, Y., Bei, R., Tian, Y., Cao, J., Yao, Y., **Tong, X.** (2022). "They are Defenseless and Should Depend on Parents to Protect Them:" A Qualitative Study of How Families with Autistic Children Perceive and Protect Privacy. The 25th ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW). *Under review*.

[C.24] Qian Y., Lin L., Wang Z., **Tong X.**, Ray LC R. (2022) Virtual Diagnostic: Using Game Behaviors During Immersive Role-Playing for Clinical Assessment of Fear of Intimacy. 2022 Annual Symposium on Computer-Human Interaction in Play (CHI Play). *Under review*.

[C.23] **Tong X.,** Gromala, D., Neustaedter, C., Fracchia, F. D., Dai, Y., & Lu, Z. (2021). Players' Stories and Secrets in Animal Crossing: New Horizons-Exploring Design Factors for Positive Emotions and Social

Interactions in a Multiplayer Online Game. Proceedings of the ACM on Human-Computer Interaction, 5(CHI PLAY), 1-23.

[C.22] **Tong, X.**, Gromala, D., & Machuca, F. (2019) LumaPath: An Immersive Virtual Reality Game for Encouraging Physical Activity for Senior Arthritis Patients. In International Conference on Human-Computer Interaction, pp. 384-397. Springer, Cham.

[C.21] **Tong, X.,** Jin, W., Cruz, K., Gromala, D., Garret, B., & Taverner, T. (2018) A Case Study: Chronic Pain Patients' Preferences for Virtual Reality Games for Pain Distraction. In International Conference on Virtual, Augmented and Mixed Reality, pp. 3-11. Springer, Cham.

[C.20]* Ng, J., Lo, H., **Tong, X.**, Gromala, D., & Jin, W. (2018) Farmooo, a Virtual Reality Farm Simulation Game Designed for Cancer Pediatric Patients to Distract their Pain during Chemotherapy Treatment. Electronic Imaging, 2018(3), pp. 432-1-432-4(4).

[C.19]‡ **Tong, X.**, Ulas, S., Jin, W., Gromala, D., & Shaw, C. (2017) The design and evaluation of a body-sensing video game to foster empathy towards chronic pain patients. Proceedings of the 11th EAI International Conference on Pervasive Computing Technologies for Healthcare, pp. 244-250.

[C.18]‡ Amin, A. M., **Tong, X.**, Gromala, D., & Shaw, C. D. (2017). Cardboard Mobile Virtual Reality as an Approach for Pain Distraction in Clinical Settings: Comparison, Exploration and Evaluation with Oculus Rift. Proc. of CHI, pp. 2345-2351.

[C.17] Jin, W., Gromala, D., Neustaedter, C., & **Tong, X.** (2017) A Collaborative Visualization Tool to Support Doctors' Shared Decision-Making on Antibiotic Prescription. ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW), pp. 211-214.

[C.16] **Tong, X**., Gupta, A., Lo, H., Choo, A., Gromala, D., & Shaw, C. D. (2017) Chasing Lovely Monsters in the Wild, Exploring Players' Motivation and Play Patterns of Pokémon Go: Go, Gone or Go Away?. CSCW, pp. 327-330.

[C.15] **Tong, X.**, Pekcetin, S., Gromala, D., & Machuca, F. (2017) Exploring body gestures as a natural user interface for flying in a virtual reality game with kinect. Electronic Imaging, The Engineering Reality of Virtual Reality, 2017(3), 60-63.

[C.14] Amin, A., Gromala, D., **Tong, X.**, & Shaw, C. (2016). Immersion in cardboard VR compared to a traditional head-mounted display. International Conference on Virtual, Augmented and Mixed Reality, pp. 269-276. Springer, Cham.

[C.13] **Tong, X.**, Gromala, D., Shaw, C. D., & Choo, A. (2016). A field study: evaluating gamification approaches for promoting physical activity with motivational models of behavior changes. International Conference on Human-Computer Interaction, pp. 417-424. Springer, Cham.

[C.12]**‡** Jin, W., Ulas, S., & **Tong, X.** (2016). AS IF: A Game as an Empathy Tool for Experiencing the Activity Limitations of Chronic Pain Patients. Proc. of CHI, pp. 172-175.

[C.11] **Gromala, D.**, Tong, X., Shaw, C., Amin, A., Ulas, S., & Ramsay, G. (2016) Mobius floe: an immersive virtual reality game for pain distraction. Electronic Imaging, 2016(4), 1-5.

[C.10] **Tong, X.**, Gromala, D., Shaw, C. D., & Neustaedter, C. (2016) Examining the Efficiency of Gamification Incentives for Encouraging Physical Activity–Social Collaborations or Interactive Mobile Games. PervasiveHealth2016, pp. 1-10.

[C.9] **Tong, X.,** Gromala, D., Shaw, C., & Jin, W. (2015) Encouraging physical activity with a game-based mobile application: FitPet. IEEE Games Entertainment Media Conference (GEM), pp. 1-2.

[C.8] **Tong, X.**, Gromala, D., Amin, A., & Choo, A. (2015) The design of an immersive mobile virtual reality serious game in cardboard head-mounted display for pain management. International Symposium on Pervasive Computing Paradigms for Mental Health, pp. 284-293. Springer, Cham.

[C.7] **Tong, X**., Gromala, D., Choo, A., Salimi, M., & Lee, J. (2015) 'Weather' Wearable System: A Design Exploration to Facilitate Collaboration and Communication with Chronic Pain Patients. International Conference on Human-Computer Interaction, pp. 383-393. Springer, Cham.

[C.6] **Tong, X.**, Gromala, D., Choo, A., Amin, A., & Shaw, C. (2015) The virtual meditative walk: an immersive virtual environment for pain self-modulation through mindfulness-based stress reduction meditation. In International Conference on Human-Computer Interaction (Virtual, Augmented and Mixed Reality), pp. 388-397. Springer, Cham.

[C.5] Gromala, D., **Tong, X.**, Choo, A., Karamnejad, M., & Shaw, C. (2015) The virtual meditative walk: virtual reality therapy for chronic pain management. Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, pp. 521-524

[C.4] **Tong, X.**, Gromala, D., Shaw, C. D., Williamson, O., & Iscen, O. E. (2015) Theory review and interaction design space of body image and body schema (BIBS) for embodied cognition in virtual reality. The Engineering Reality of Virtual Reality, Vol. 9392, p. 93920D.

[C.3] **Tong, X.,** Gromala, D., Shaw, C., & Clarke, P. (2014) Transformation between Electronic Arts and Chronic Pain: Long-term Body Activity Data Visualization and Pain Animation. Electronic Visualization and the Arts (EVA 2014), 75-81.

[C.2] Choo, A., **Tong, X.**, Gromala, D., & Hollander, A. (2014) Virtual reality and mobius floe: cognitive distraction as non-pharmacological analgesic for pain management. Games for Health, pp. 8-12. Springer.

[C.1] Karamnejad, M., Gromala, D., Choo, A., Shaw, C., & **Tong, X.** (2014) Orientation of Attention in Visual Feedbacks during Neurofeedback Relaxation. PhyCS 2014, pp. 196-203. Best Paper Award.

‡The authors share equal authorship.

*Directly mentored students on this publication.

Posters, Workshop Papers, and Extended Abstracts (Peer-Reviewed)

[P.6] Bei, R., Li, Y., & **Tong, X.** (2021). Whack-a-Ball: An Exergame Exploring the Use of a Ball Interface for Facilitating Physical Activities. In Extended Abstracts of the 2021 Annual Symposium on Computer-Human Interaction in Play (pp. 249-255).

[P.5] Li, X., Tang, X., **Tong, X.**, Patibanda, R., Mueller, F., & Liang, H. N. (2021). Myopic Bike and Say Hi: Games for Empathizing with The Myopic. In Extended Abstracts of the 2021 Annual Symposium on Computer-Human Interaction in Play (pp. 333-338).

[P.4] Gupta, A., **Tong, X**., Shaw, C., Li, L., & Feehan, L. (2017) FitViz: A personal informatics tool for self-management of rheumatoid arthritis. International Conference on Human-Computer Interaction, pp. 232-240. Springer, Cham.

[P.3] **Tong, X.**, Kitson, A., Salimi, M., Fracchia, D., Gromala, D., & Riecke, B. E. (2016) Exploring embodied experience of flying in a virtual reality game with kinect. IEEE International Workshop on Mixed Reality Art (MRA), pp. 5-6.

[P.2] **Tong X.**, Gromala, D., Bartram L., Rajabiyazdi F., Carpendale S. (2015) Evaluating the Effectiveness of Three Physical Activity Visualization – How People Perform vs. Perceive. IEEE VIS workshop, vis4me.

[P.1] Jin, W., Gromala, D., & **Tong, X.** (2015). Serious game for serious disease: Diminishing stigma of depression via game experience. In 2015 IEEE Games Entertainment Media Conference (GEM), pp. 1-2.

Dissertations and Thesis

[T.2] **Tong, X.** (2021). Bodily resonance: Exploring the effects of virtual embodiment on pain modulation and the fostering of empathy toward pain sufferers (Doctoral dissertation, Communication, Art & Technology: School of Interactive Arts and Technology, Simon Fraser University).

[T.1] **Tong, X.** (2015). Encouraging Physical Activity with Gamification Approaches: Goal-Setting, Social Community, and "FitPet" Game-Based Mobile Application (Master's thesis, Communication, Art & Technology: School of Interactive Arts and Technology, Simon Fraser University)).

Invited Talks

[I.13] **Tong, X.** Designing games for facilitating autistic children's social collaboration skills. The 4th Jiangsu Artificial Intelligence Conference, Nanjing, Dec 27th, 2021.

[I.12] Paredes, P., **Tong, X.**, Kim, L., Stanford NSF grant annual report presentation with Dr. Zhenan Bao's group, Dec. 2021, virtual.

[I.11] **Tong, X.** Pervasive wellbeing technologies. DKU Interdisciplinary research network, Dec. 2021, DKU.

[I.10] **Tong, X.** Digital and VR Games for Facilitating Social Skills of Children with Autism Spectrum Disorder. DKU Junior Faculty Seminar Series, Nov. 2021, virtual.

[I.9] **Tong, X.** Virtual reality and game design. Communications University of China, Beijing, Oct. 23rd, 2021.

[I.8] **Tong, X.** Players' Stories and Secrets in Animal Crossing: New Horizons-Exploring Design Factors for Positive Emotions and Social Interactions in a Multiplayer Online Game. Proceedings of the ACM on Human-Computer Interaction PLAY, Oct. 2021, virtual.

[I.7] Paredes, P., **Tong, X.** , Kim. L., Stanford Population Health Sciences Department Research Presentation, July 2021, virtual.

[I.6] **Tong, X.** LiveDots HCI Research Seminar LiveStreaming Talk: VR Empathy (invited), July 2021, virtual.

[I.5] **Tong, X.** and Yao, Y. Qualitative research and interviews. The HCIX summer research program, July 2021, virtual.

[I.4] Lu, Z., Liu, C., Yao, Y., **Tong, X.**, Li, T., and LC, Ray. Opening talk. The HCIX summer research program, June 2021, virtual.

[I.3] **Tong, X.** Experiences in Proposal Writing. Graduate students' IAT883 Proposal Writing course at Simon Fraser University, May 2021, virtual.

[I.2] **Tong, X.** Project ABC: Authorization, booking and coordination of widespread serological testing and immunization. Simon Fraser University Public Square's Community Summit: Towards Equity, Apr, 2021, virtual.

[I.1] **Tong, X.** Empathetic VR for Vulnerable populations. Research colloquium for graduate students from Monash University and undergraduates from Xi'an-jiaotong Liverpool University, Jan. 2021, virtual.

Exhibitions (Peer-Reviewed)

[E.2] Bao, X., LC, R., **Tong, X.**. The Second Organ: a plant-human interaction exploration wearable dress. Exhibited at three locations: Tsinghua University Meng Minwei Concert Hall, Oct 23-25 2021, Shaoxing Keqiao Tsinghua-Italy 10th Fashion Week and Future Fashion Gallery, Nov 2021, and Chengdu Tian'fu Tsinghua-Italy Innovation Design Center, Dec - Jan 2022.

[E.1] Wu Q., **Tong X.**, Interactive Art Installation – "Sleeping Flowers" ("沉睡的花") at the 3rd International Exhibition of Arts and Sciences, 2012, Beijing China.

Technical Demonstrations

[D.15] Gromala D., **Tong, X.**, Wong C., Kieai P., Demonstrations of AS IF, LumaPath and VMW in Pain studies lab for visitors from UnitedHealth Group demo, Jan 2020

[D.14] Gromala D., **Tong, X.**, Muchuca, F., Feng, N. "LumaPath: Immersive Virtual Reality (VR) to Help Motivate Range of Motion in Arthritis Patients," Arthritis Research Centre of Canada, Richmond, BC, 13 March 2018.

[D.13] Gromala, D., Shaw, C., **Tong, X.**, Muchuca, F., Feng, N., "Will VR Be the Next Opioid? Or can it help with the opioid crisis?" Vancouver Club, Mar 2018.

[D. 12] Gromala D., **Tong, X**. Pekcetin S., Machuca F., Jin W., "Move More, Sit Less" Immersive VR demonstration for BC Ministry. SFU SIAT, Surrey, BC, 1 December 2017.

[D. 11] Gromala, D., Shaw, C., **Tong, X**., Lab demo and discussion of immersive VR for use by palliative care patients with Dr. Michael Downing, BC's palliative care pioneer at the University of Victoria. 26 October 2017.

[D.10] Gromala, D., Shaw, C., **Tong, X**., invited participants with Jock MacKinley and Maureen Stone founders from Tableau Software in SFU for "SFU/Tableau Software Research Day", July 2016.

[D.9] Gromala D., Tong X,, Jin W., Ulas S. Demonstrations of two Pain Studies Lab's research projects: AS IF and LikeMind game with Mechatronics Department, May 2016, SFU Surrey.

[D.8] **Tong X**., Ulas S., Gromala D., Jin W., Demonstrated "AS IF" game at SFU's 50th Anniversary Open House. SFU Surrey. March 2016. (Invited.)

[D.7] Gromala D., **Tong X.**, Jin W., Ulas S. Demonstrations of VR and wearable health systems designed in the Pain Study Lab: "Mobius Floe," "Virtual Meditative Walk" and "FitViz" for Prof. Pat Hanrahan from Stanford University. SFU Pain Studies Lab, Feb 3, 2016.

[D.6] Rose, H., Hollander, A., **Tong, X.**, Gromala, D., & Shaw, C., Rothenberg Ventures River Program Founder Fields Day, AT&T Park, San Francisco, USA, April 27, 2015.

[D.5] **Tong, X.**, & Ramsay, G., Journalist from Discovery Journal interviewed for Virtual Reality Research at Pain Studies Lab, New York, USA, April 2015.

[D.4] Yu, C., & **Tong, X.**, SFU Undergrad Conference Research Demo, Surrey City Hall, March 2015.

[D.5] Gromala, D., **Tong, X.** & Choo, A. "Virtual Meditative Walk" Invited to showcase the Pain Studies Lab's VR work at SeaVR, VR Showcase in the Living Computer Museum, October 1, 2014. Seattle. (Invited.)

[D.4] Gromala, D. & **Tong, X.** "Mobius Floe" Demonstration for University of Southern California, Mixed Reality Group and Medical Virtual Reality Group, Sin-Hwa Kang Institute for Creative Technologies, September 10, 2014. Surrey, BC.

[D.3] **Tong, X.**, Ramsay, G., Gromala, D., Shaw, C., Pain Lab Virtual Reality Research Project Demo to doctors from BC Children & Women Hospital 2014.

[D.2] Gromala, D., Shaw, C., **Tong, X**., & Yu, C. Hosted a two-hour Pain Studies Lab review and discussion with ACM DIS (Designing Interactive Systems) attendees. June 22, 2014. SFU Pain Studies Lab, Surrey, BC.

[D.1] Demos Gromala, D. & **Tong, X.** Pain Studies Lab demonstrations for SFU Surrey's Global Community Open House, March 6, 2014. SFU Surrey, BC.

Selected Technical System Implementations

[SW.12] **Tong X.**, "Predicting patients' EDA arousal patterns in VR for automatic real-time environmental adaptation using Machine Learning models", 2020.

[SW.11] **Tong X.**, "Sense of Embodiment and Pain in VR". Virtual Reality environments in Unity3D (with Leap Motion and HTC VIVE platform) that used to examine the correlation between different embodied visual and movement conditions and pain reduction, 2019-2020.

[SW.10] **Tong X.**, Yang, S., Wei K., "Ponzo Illusion in VR", different conditions that have different visual scales to evaluate the Ponzo Illusion visual effect in VR, 2018-2019.

[SW.9] **Tong X.**, Jin, W., Ulas, S., "AS IF", a digital game for fostering empathy towards patients. Version 1.0 with Microsoft Kinect in 2016, and version 2.0 with HTC VIVE in 2019.

[SW.8] Muchacha F., **Tong X.**, Feng N., and Park S., LumaPath VR game to facilitate physical activity of arthritis patients, developed in Unity3D with HTC VIVE VR platform.

[SW.7] Lo H., Ng J., **Tong X.**, "Farmooo", mentored the design and development of a VR game with Leap Motion gesture control for cancer outpatients' pain distraction, developed in Unity3D with VIVE VR platform, 2016.

[SW.6] **Tong X.**, Choo A., "CryoBlast" A cardboard mobile (Android) VR game to examine the effectiveness of cardboard VR on pain distraction, developed in Unity3D, 2016.

[SW.5] **Tong X.**, "FitPet", A mobile App that converts users' steps data to in-game currency to keep a virtual pet for facilitating physical activity, developed in Unity3D, 2015

[SW.4] **Tong X.**, Kitson A., "Lost Spirit", a VR environment provide the experience of flying via Microsoft Kinect, developed in Unity3D, 2015

[HW.3] **Tong X.**, Gromala D. "Gromala's Weather" a wearable system for colocated coworkers collaboration, developed using Arduino Lilypad system and sensors, 2014.

[SW.2] Gromala D., **Tong X.**, Choo A., Yu C., "Mobius Floe", an interactive VR game for pain distraction in Oculus Rift, 2014.

[SW.1] Gromala D., **Tong X.**, Kiaei P., Karamnejad, M., Choo A., "Virtual Meditative Walk", a VR meditation environment that collects real-time EMG data and visualizes the data as environmental factors, developed in Unity3d, version 1.0 2014, and version 2.0 2019.

Selected Media & Press

[P.4] **Tong X.**, SFU SIAT Spotlight, Exploring VR for the health sector, May, 2017.

[P.3] **Tong, X.**, Jin, W., Ulas, S. SFU Innovate Story. SFU SIAT students create a game to help chronic pain sufferers. Feb, 2016.

[P.2] **Tong, X.**, SFU University Communications, SFU grad student recognized for virtual reality design paper", Design Principle & Practices, Graduate Scholar Award on the Conference websites, Feb 2015

[P.1] Choo A., **Tong, X.**, Yu C., (a) SFU University Press. "SFU students in GRAND score Best Game and the Microsoft Surface Award at the UNITE Conference in Seattle." University Press, Oct 2014. (b) GRAND Forum, Canada's Digital Media Research Network (GRAND) Forum News, Oct 2014. (c) Microsoft Video Interview. "Windows 10 for Developers Who Do" aired at BUILD 2015 conference, April 30, 2015.

SKILLS

Development

Programming: C, C++, C#, Java/Processing, Python, Javascript, HTML, CSS, VHDL
Applications and Hardware: Unity, NVIVO, Tableau, JMP, SPSS, Matlab, Arduino

Design and Prototyping

Adobe Suite (PS, AI, InDesign, Premiere, Dreamweaver), Sketch, Axure, Figma

Research Methodologies

Quantitative, Qualitative, and Mixed-method Studies (Field Study, Case Study, Focus Group, Participatory Design, Exploratory Design, Research through Design, and so on)

TEACHING

Courses, Instructor

Data Acquisition and Visualization Duke Kunshan University (STATS 410)	N/A	Spring 2022 & Fall 2021
Computation, Culture, and Society Duke Kunshan University (INFOSCI 103)	4.7/5	Spring 2022

Courses, Lab Instructor/Teaching Assistant

Advanced Game Design Simon Fraser University* (IAT 410)	Online, N/A	Fall 2020
Multimedia Programming for Art and Design Simon Fraser University* (IAT 265)	Online, N/A	Summer 2020
Digital Games: Genre, Structure, Programming and Play Simon Fraser University* (IAT 167)	Online, N/A	Spring 2020
Immersive Environments (VR, AR & Mixed Reality) Simon Fraser University* (IAT 445)	3.9 (ave 3.2)	Fall 2019
Foundations of Game Design Simon Fraser University* (IAT 312)	3.6 (ave 3.1)	Summer 2016
Interdisciplinary Design Approaches to Computing Simon Fraser University* (IAT 812)	3.5 (ave 3.2)	Fall 2015

*Responsible for leading individual/group discussion sections, technical tutorials, living coding and debugging of 25-50 students, preparing and giving lab lectures once per week throughout the semester.

Independent Studies at Duke Kunshan University, Mentor

Kaiyuan Lou, RINDSTU 393-020 (1829) Generative Virtual Pet	Mar-May 2022
Ruiqi Chen, RINDSTU 393-022 (1835) Immersive Environment in Unity	Mar-May 2022
Yutong Ren, INDSTU 391-021 (1830) AR DKU	Mar-May 2022
Wei Yi, INDSTU 391-027 (1842) Virtual Agent System	Mar-May 2022
Weicheng Zheng, RINDSTU 393-005 (1722) Virtual Avatar Generation	Jan-May 2022
Jiayi Li, RINDSTU 393-003 (1701) Newsreader Algorithm3	Jan-May 2022
Wei Yi, RINDSTU 393-010 (1770) 3D Face Reconstruction	Jan-Mar 2022
Zeying Huang, INDSTU 391-003 (1703) Interactive Knowledge Graph	Jan-Mar 2022
Haitong Lin, RINDSTU 393-005 (1532) Measuring Anxiety	Aug-Oct 2021
Haitong Lin, CAPSTONE 495-047 (1600)	Oct-Dec 2021
Haitong Lin, CAPSTONE 496-080 (1694)	Jan-May 2022
Rongqi Bei, RINDSTU 393-006 (1535) HCI: Game Design for Autism	Aug-Oct 2021

Courses (secondary), Primary Instructor

Foundations of Game Design and Unity Programming (7 to 17 year-old children)
Under the GUI Weekend Program 2019-2020

Courses, Guest Lectures

Guest Speaker at SFU IAT 883 Proposal Writing course 2021

Guest Lecture at Center for Digital Media (CDM) summer program Summer 2016

SERVICES

Professional, Search Committee

Arts and Humanities Search Committee for the Digital Media Position 2021

Professional, Editor

Frontiers in Pain Journal, invited guest editor in a special topic 2021-22

Professional, Program Committee

ACM CSCW - Associate Chair, Papers and Awards Committee 2020-22
ACM CHI - Associate Chair, Late Breaking Works 2020-21

Professional, Reviewing

Frontiers in Psychology 2021
Frontiers in Virtual Reality 2021
Taylor & Francis' Human-Computer Interaction Journal 2021
IEEE Transactions on Human-Machine Systems Journal 2021
ACM Interactive, Mobile, Wearable & Ubiquitous Technologies Papers 2021
ACM Conference on Designing Interactive Systems (DIS) 2020
IEEE VR Journal 2020-21
Frontiers in Virtual Reality Journal 2020-21
ACM CHI Papers and Late Breaking Works 2016-21
ACM CSCW Papers 2017-21
Journal of Medical Internet Research (JMIR) in Serious Games 2018-21
Scientific Reports Journal 2019-20
Frontiers in Human Neuroscience Journal 2019

Professional, Organizing

HCIX summer intern program: organizing faculty committee 2021-22
ACM CHI - Chairing Conference Sessions 2021

Public Community Services 2021

Game Design presentations for two elementary schools, BC Canada 2018-21
Richmond Public Library, STEM Lecturer & Program Coordinator 2019-21
Community Scientist in BC Telus Science World

University Services 2020-21

SFU CHI Club Review Committee

Organized Workshops

SFU Health Research Day, SFU Surrey, May 4th, 2016. Acted as a group facilitator and oversaw the presentations of research posters for this day-long health research meeting.

GRAND-NCE Digital Media & Health Workshop: SFU & UToronto, October 17, 2014. Co-located via telepresence at SFU Harborview in Vancouver and MaRS Discovery District at the University of Toronto. Acted as a group facilitator and one of the organizers.

MENTORING

Signature Work Students, Duke Kunshan University

Haitong Lin	2021-22
Julia Sulstarova	2021-22
Nick Silva	2021-now
Yutong Ren	2021-now
Xuening Pan	2021-now
Team project: Xiaoqi (Alvan) Lai, Ziyu (Boris) Yang, Yihe (Mick) Li	2021-now
Team project: Jingyang Yan, Pengbo Wang, Alan Lien, and Shaokun Lv	2021-now

Invited Mentorship Roles

Mentored Aria Law, Olivia Chow, Georgia Eckmen in Technovation Girls	2020
Odyssey of Mind 2020 Contest, Invited BC Provincial Judge	2020
B.C. Science Fair 2020 Event, Invited Mentor and Judge	2020-21

Graduate Mentoring (assisting supervisor)

Marco Mora and Nina Prabhu, Stanford University	2021
Pegah Kiaei, M.Sc. School of Interactive Arts and Technology (SIAT), SFU	2019-20
Jimmy Shen, M.Sc. SIAT, SFU	2019-20
Henan Diao, M.Sc. Peking U	2018-19
Frederico Machuca, M.A. SIAT, SFU	2017-18

Undergraduate Research Mentoring

Sherry Wong and Celia Zhang, B.A. SIAT, SFU	2018-19
Yang Shen, B.Sc. Peking University [SW.10]	2019-20
Christopher Wong, SIAT, SFU [SW.8]	2019-20
Kathryn Cruz, SIAT, SFU [C.21]	2017-19
Sungmin Park, Liah Castillo, SIAT, SFU [SW.8]	2018
Henry Lo and Janice Ng, B.Sc. SIAT, SFU [C.20, SW.7]	2017-18
Gillian Ramsay, B.Sc. SIAT, SFU [C.11, D.3, D.5]	2016
Jeewon Lee, B.Sc., RMIT University	2015
Cheryl Yu, B.A. SIAT, SFU [D.1, D.2, D.4, SW.2]	2014-15
	2014

TRAININGS

Stanford OnCore study protocol system training	2021
Stanford and CITI trainings for research ethics	2021
SFU Remote 4-Week Teaching Seminar	2021
MITACS Project Management 2-Day Remote Workshop	2021
Computational Neuroscience Machine Learning Training by Neuromatch Academy	2020
Get Started with Tableau Public for Data Visualization	2020
Unity Certified Developer Certificate	2017
PainBC Annual Conference and Workshops	2014-16
UBC's Centre for Brain Health Tour	2016
SFU 3-day Intensive Instructional & Teaching Workshop	2016
Women As Agents Of Change in Health, by Interface Health	2016
VanCG & VanVR Meetup: How to Build a Virtual World: The Business of VR	2015
SFU Persuasive Writing for STEM Workshop	2015
Microsoft unite workshop by Microsoft	2014
MAIWA 3-day fabrication workshop of wearable-related health research	2014
Canadian TCPS2 Core Ethics Certificate	2013
Empathy for Patients Workshop by Pain Studies Lab	2013