Shan-Yuan Teng

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Employment

2025 - present **Assistant Professor, Department of Computer Science & Information Engineering**
National Taiwan University, Taiwan

Fellowship

Yushan Young Fellow (2025-2030, USD425k total), Ministry of Education, Taiwan

Academic awards

Best Paper Awards: UIST 2021, UIST 2020

Best Demo Awards: UIST 2021 (x2)

Honorable Mention Awards: UIST 2024, UIST 2022, CHI 2021, CHI 2020, UIST 2019

Education

2025 **PhD (Computer Science), University of Chicago, USA**
Thesis: Enabling haptic experiences anywhere, anytime
Advisor: Prof. Pedro Lopes

2018 **MS (Computer Science), National Taiwan University, Taiwan**
Thesis: Design of shape-changing haptic interfaces using pneumatic actuation for virtual reality
Advisor: Prof. Bing-Yu 'Robin' Chen

2016 **BS (Electrical Engineering), National Taiwan University, Taiwan**

Publications (ACM CHI, UIST* & Science Advances)

* ACM CHI and UIST are the premier venues for technical Human-Computer Interaction (HCI) publications, fully peer-reviewed and at an acceptance rate of 20-25%. These are regarded as top-tier in the field, even when considering HCI journals, and Computer Science is a conference-focused discipline.

[18] Seeing with the hands: a sensory substitution that supports manual interactions.
Shan-Yuan Teng*, Gene S-H Kim*, Xuanyou Liu*, Pedro Lopes. (*equal contribution)
CHI 2025 Paper

[17] Haptic permeability: adding holes to tactile devices improves dexterity.
Shan-Yuan Teng, Aryan Gupta, Pedro Lopes.
CHI 2024 Paper

[16] Can a smartwatch move your fingers? Compact and practical electrical muscle stimulation in a smartwatch.
Akifumi Takahashi, Yudai Tanaka, Archit Tamhane, Alan Shen, **Shan-Yuan Teng**, Pedro Lopes.
UIST 2024 Paper 🏅 **UIST Honorable Mention Award**

[15] ThermalRouter: enabling users to design thermally-sound devices.
Alex Mazursky, Borui Li, **Shan-Yuan Teng**, Daria Shifrina, Joyce E. Passananti, Svitlana Midianko, Pedro Lopes.
UIST 2023 Paper

[14] Prolonging VR haptic experiences by harvesting kinetic energy from the user.
Shan-Yuan Teng, K. D. Wu, Jacqueline Chen, Pedro Lopes.
UIST 2022 Paper 🏅 **UIST Honorable Mention Award**

[13] Touch&Fold: a foldable haptic actuator for rendering touch in mixed reality.
Shan-Yuan Teng, Pengyu Li, Romain Nith, Joshua Fonseca, Pedro Lopes.
CHI 2021 Paper 🏅 **CHI Honorable Mention Award**

[12] Altering perceived softness of real rigid objects by restricting fingerpad deformation.
Yujie Tao, **Shan-Yuan Teng**, Pedro Lopes.
UIST 2021 Paper 🏆 **UIST Best Paper Award** 🏆 **UIST Best Demo Award (jury's award)**

[11] DextrEMS: increasing dexterity in electrical muscle stimulation by combining it with brakes.
Romain Nith, **Shan-Yuan Teng**, Pengyu Li, Yujie Tao, Pedro Lopes.
UIST 2021 Paper 🏆 **UIST Best Demo Award (people's choice)**

[10] MagnetIO: passive yet interactive soft haptic patches anywhere.
Alex Mazursky, **Shan-Yuan Teng**, Romain Nith, Pedro Lopes.
CHI 2021 Paper

[9] Stereo-smell via electrical trigeminal stimulation.
Jas Brooks, **Shan-Yuan Teng**, Jingxuan Wen, Romain Nith, Jun Nishida, Pedro Lopes.
CHI 2021 Paper

[8] Elevate: a walkable pin-array.
Seungwoo Je, Hyunseung Lim, Kongpyung Moon, **Shan-Yuan Teng**, Jas Brooks, Pedro Lopes, Andrea Bianchi.
CHI 2021 Paper

[7] A stretchable and strain-unperturbed pressure sensor for motion-interference-free tactile monitoring on skins.
Qi Su, Q. Zou, Yang Li, Yuzhen Chen, **Shan-Yuan Teng**, Jane Tunde Kelleher, Romain Nith, Ping Cheng, Nan Li, Wei Liu, Shilei Dai, Youdi Liu, Alex Mazursky, Jie Xu, Lihua Jin, Pedro Lopes, Sihong Wang.
Science Advances, 2021

[6] HandMorph: a passive exoskeleton that miniaturizes grasp.
Jun Nishida, Soichiro Matsuda, Hiroshi Matsui, **Shan-Yuan Teng**, Ziwei Liu, Kenji Suzuki, Pedro Lopes.
UIST 2020 Paper 🏆 **UIST Best Paper Award**

[5] Wearable microphone jamming.
Shan-Yuan Teng*, Yuxin Chen*, Huiying Li*, Steven Nagels, Zhijing Li, Pedro Lopes, Ben Y. Zhao, Haitao Zheng. (*equal contribution)
CHI 2020 Paper 🏅 **CHI Honorable Mention Award**

[4] TilePoP: tile-type pop-up prop for virtual reality.
Shan-Yuan Teng, Cheng-Lung Lin, Chi-huan Chiang, Tzu-Sheng Kuo, Liwei Chan, Da-Yuan Huang, Bing-Yu Chen.
UIST 2019 Paper 🏅 **UIST Honorable Mention Award** 🏅 **UIST Honorable Mention for Best Talk**

[3] Aarnio: passive kinesthetic force output for foreground interactions on an interactive chair.
Shan-Yuan Teng, Da-Yuan Huang, Chi Wang, Teddy Seyed, Jun Gong, Xing-Dong Yang, Bing-Yu Chen.
CHI 2019 Paper

[2] PuPoP: pop-up prop on palm for virtual reality.
Shan-Yuan Teng, Tzu-Sheng Kuo, Chi Wang, Chi-huan Chiang, Da-Yuan Huang, Liwei Chan, Bing-Yu Chen.
UIST 2018 Paper

[1] Outside-In: visualizing out-of-sight regions-of-interest in a 360 video using spatial picture-in-picture previews.
Yung-Ta Lin, Yi-Chi Liao, **Shan-Yuan Teng**, Yi-Ju Chung, Liwei Chan, Bing-Yu Chen.
UIST 2017 Paper

Academic service

Program Committee: SIGGRAPH Asia 2025 Emerging Technologies, ACM UIST 2024,
SUI 2024/2023, ISS 2024/2025 Editorial Board,
ISWC 2022, Augmented Humans 2024/2023

Demo Chair: ACM Augmented Humans 2021

Video Preview Chair: ACM UIST 2024

Paper Session Chair: ACM UIST 2024, CHI 2023/2022

Paper Reviewer: ACM CHI, UIST, IMWUT, TEI, DIS, IMX, SIGGRAPH (Technical Paper)
IEEE VR, IEEE Haptics, ISMAR, World Haptics, Robotics and Automation Letters
International Journal of Human-Computer Studies

Student Volunteer: ACM UIST 2022/2020, IEEE Haptics 2022

Patent

[1] Wearable microphone jammer
US Patent (US20230131816A1)

Demonstrations (ACM SIGGRAPH, IEEE Haptics Symposium & World Haptics)

[4] Demonstrating haptic permeability: adding holes to tactile devices improves dexterity.
Shan-Yuan Teng, Aryan Gupta, Pedro Lopes.
IEEE Haptics Symposium 2024

[3] Demonstrating touch&fold: a foldable haptic actuator for rendering touch in mixed reality.
Shan-Yuan Teng, Pengyu Li, Romain Nith, Joshua Fonseca, Pedro Lopes.
SIGGRAPH 2021 Emerging Technologies, IEEE World Haptics 2023

[2] Demonstrating magnetIO: passive yet interactive soft haptic patches anywhere.
Alex Mazursky, **Shan-Yuan Teng**, Romain Nith, Pedro Lopes.
SIGGRAPH 2021 Emerging Technologies

[1] Stylus assistant: designing dynamic constraints for facilitating stylus inputs on portable displays.
Long-Fei Lin, **Shan-Yuan Teng**, Rong-Hao Liang, Bing-Yu Chen.
SIGGRAPH ASIA 2016 Emerging Technologies

Workshops

[4] Enabling haptic experiences anywhere, anytime.
Shan-Yuan Teng, Pedro Lopes.
IEEE Haptics Symposium 2024: Cross-cutting Challenges

[3] Experience haptics seamlessly across virtual and real worlds.
Shan-Yuan Teng, Pedro Lopes.
IEEE VR 2024: 1st Workshop on Seamless Reality

[2] Enabling haptic experiences anywhere, anytime.
Shan-Yuan Teng.
SIGGRAPH 2022 Frontiers Workshop

[1] Building miniature and standalone haptic wearables for integrating into the real world.
Romain Nith, **Shan-Yuan Teng**, Pedro Lopes.
CHI 2022: Sustainable Haptic Design

Magazine article

[1] XR needs “mixed feelings”: engineering haptic devices that work in both virtual and physical realities.
Shan-Yuan Teng, Pedro Lopes.
ACM XRDS 2022: Crossroads Magazine Article

Teaching

Making and Inventing Interactive Devices (CSIE5647)
Fall course at National Taiwan University

Invited talks

[9] Tufts University (2025) *hosted by Prof. Robert Jacob*

[8] University of Wisconsin–Madison (2025) *hosted by Prof. Bilge Mutlu*

[7] University of California, Los Angeles (2024) *hosted by Prof. Yang Zhang*

[6] Cornell Tech (2024) *hosted by Prof. Thijs Roumen*

[5] University of Toronto (2024) *hosted by Bryan Wang*

[4] Stanford University (2023) *hosted by Yujie Tao & Matthew Jörke*

[3] Eindhoven University of Technology (2023) *hosted by Prof. Rong-Hao Liang*

[2] National Taiwan University (2022) *hosted by Prof. Lung-Pan Cheng*

[1] Simon Fraser University (2022) *hosted by Prof. Xing-Dong Yang*

Organizing experience

[2] People and Tech Seminar at University of Chicago
Fall quarter, 2024

[1] XR Meetup
ACM SIGGRAPH 2022, CHI 2023