Te-Yen Wu

Assistant Professor

Computer Science, Florida State University

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My research lies in the intersection areas of Human-Computer Interaction, Cyber-Physical Systems, and AI Technologies. My career goal is to build sustainable, scalable and intelligent ambient computing to facilitate the large-scale creation of smart environments. To achieve that, I have developed smart everyday materials that can 1) seamlessly sense user activities and contexts, 2) be used with established methods to create a smart environment, and 3) operate without embedded batteries and silicon-based integrated circuits. In addition, I have also worked on other HCI topics, such as wearable sensing technology, text entry system and Human-AI interactions in VR/AR. My research is generally published in top HCI venues such as CHI and UIST, while I also contribute to top AI conferences such as ICLR. My research has attracted considerable public interests via Internet News (e.g. Engadget, Times). Currently, I look forward to any opportunity for interdisciplinary collaboration.

Professional Experience

Assistant Professor, Florida State University — *Tallahassee, FL*

Direct the MakeX Lab in the Department of Computer Science. — *June. 2023 - Now*

Research Intern, Meta Reality Lab — *Redmond, WA*

Develop a new wearable input system for Metaverse. — *June. 2022 - Sept. 2022*

Research Intern, Microsoft Research — *Redmond, WA*

Contribute a new wearable system and infrastructure for smart garments. — *June. 2021 - Sept. 2021*

Research Intern, Microsoft Research — *Redmond, WA*

Invent a new smart pocket for enabling touch and contextual interactions, with filing one patent and one paper published. — *June. 2020 - Sept. 2020*

Education

Dartmouth College — *Hanover, NH, USA*

PhD of Science - Computer Science — *Sept. 2018 - June. 2023*

XDiscovery lab. Advisor: Xing-Dong Yang

National Taiwan University — *Taipei, Taiwan*

Master of Science - Computer Science and Engineering — *Sept. 2015 - Sept. 2017*

Mobile & HCI lab. Advisor: Mike Y. Chen

National Taipei University of Technology — *Taipei, Taiwan*

Bachelor of Science - Computer Science and Engineering — *Sept. 2011 - Sept. 2015*

Best undergraduate research project award.

Publications [1]

[C24] Tagnoo: Enabling Smart Room-Scale Environments with RFID-Augmented Plywood

Proceedings of the 42nd annual ACM conference on human factors in computing systems. **(CHI'24)**

Yuning Su, Tingyu Zhang, Jiuen Feng, Yonghao Shi, Xing-Dong Yang, ***Te-Yen Wu***

[1] In the field of Human-Computer Interaction, the ACM Conference on Human Factors in Computing Systems (CHI) and ACM Symposium on User Interface Software Technology (UIST) are considered top tier forums for timely and impactful work, which have an annual acceptance rate of around 20 - 25%.

[C23] WooDowel: Electrode Isolation for Electromagnetic Shielding in Triboelectric Plywood Sensors

Proceedings of the 42nd annual ACM conference on human factors in computing systems. **(CHI'24)**

*Yonghao Shi, Chenzheng Li, Yuning Su, Xing-Dong Yang, **Te-Yen Wu***

[C22] Mind's Eye: Grounded Language Model Reasoning through Simulation

11th International Conference on Learning Representations. **(ICLR'23)**

*Ruibo Liu, Jason Wei, Shixiang Shane Gu, **Te-Yen Wu**, Soroush Vosoughi, Claire Cui, Denny Zhou, Andrew M. Dai*

[C21] XAIR: A Framework of Explainable AI in Everyday AR.

Proceedings of the 41st annual ACM conference on human factors in computing systems. **(CHI'23)**

*Xuhai Xu, Anna Yu, Tanya R. Jonker, Kashyap Todi, Feiyu Lu, Xun Qian, João Marcelo Evangelista Belo, Tianyi Wang, Michelle Li, Aran Mun, **Te-Yen Wu**, Junxiao Shen, Ting Zhang, Narine Kokhlikyan, Fulton Wang, Paul Sorenson, Sophie Kim, Hrvoje Benko*

[C20] iWood: Makeable Vibration Sensor for Interactive Plywood.

Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology. **(UIST'22)**

***Te-Yen Wu**, Xing-Dong Yang*

[C19] NFCStack: Identifiable Physical Building Blocks that Support Concurrent Construction and Frictionless Interaction.

Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology. **(UIST'22)**

*Chi-Jung Lee, Chi-Huan Chiang, Ling-Chien Yang, **Te-Yen Wu**, Rong-Hao Liang, Bing-Yu Chen*

[C18] Body-Centric NFC: Body-Centric Interaction with NFC Devices Through Near-Field Enabled Clothing.

In Designing Interactive Systems Conference 2022**(DIS'22)**

***Te-Yen Wu**, Huizhong Ye, Chi-Jung Lee, Xing-Dong Yang, Bing-Yu Chen, Rong-Hao Liang*

[C17] AccessibleCircuits: Adaptive Add-On Circuit Components for People with Blindness or Low Vision.

Proceedings of the 39th annual ACM conference on human factors in computing systems. **(CHI'21)**

*Ruei-Che Chang, Wen-Ping Wang, Chi-Huan Chiang, **Te-Yen Wu**, Zheer Xu, Justin Luo, Bing-Yu Chen, Xing-Dong Yang*

[C16] Project Tasca : Enabling Touch and Contextual Interactions with a Pocket-based Textile Sensor.

Proceedings of the 39th annual ACM conference on human factors in computing systems. **(CHI'21)**

***Te-Yen Wu**, Zheer Xu, Xing-Dong Yang, Steve Hodge ,Teddy Seyed*

[C15] Capacitivo: Contact-Based Object Recognition on Interactive Fabrics using Capacitive Sensing.

Proceedings of the 33th Annual ACM Symposium on User Interface Software and Technology. **(UIST'20)**

***Te-Yen Wu**, Lu Tan, Yuji Zhang, Teddy Seyed, Xing-Dong Yang*

[C14] Fabriccio: Touchless Gestural Input on Interactive Fabrics.

Proceedings of the 38th annual ACM conference on human factors in computing systems. **(CHI'20)**

***Te-Yen Wu**, Shutong Qi, Junchi Chen, MuJie Shang, Jun Gong, Teddy Seyed, Xing-Dong Yang*

[C13] TangibleCircuits: An Interactive 3D Printed Circuit Education Tool for People with Visual Impairments.

Proceedings of the 38th annual ACM conference on human factors in computing systems. **(CHI'20 Honorable Mention Award)**

*Josh Urban Davis, **Te-Yen Wu**, Bo Shi, Hanyi Lu, Athina Panotopoulou, Emily Whiting, Xing-Dong Yang*

[C12] Zippro: The Design and Implementation of An Interactive Zipper.

Proceedings of the 38th annual ACM conference on human factors in computing systems. **(CHI'20)**

*Pin-Sung Ku, Jun Gong, **Te-Yen Wu**, Yixin Wei, Yiwen Tang, Barrett Ens, Xing-Dong Yang*

[C11] ThreadSense: Locating Touch on an Extremely Thin Interactive Thread.

Proceedings of the 38th annual ACM conference on human factors in computing systems. **(CHI'20)**

*Pin-Sung Ku, Qijia Shao, **Te-Yen Wu**, Jun Gong, Ziyan Zhu, Xia Zhou, Xing-Dong Yang*

[C10] BiTipText: Bimanual Eyes-Free Text Entry on a Fingertip Keyboard

Proceedings of the 38th annual ACM conference on human factors in computing systems. **(CHI'20)**

*Zheer Xu, Weihao Chen, Dongyang Zhao, Jiehui Luo, **Te-Yen Wu**, Jun Gong, Sicheng Yin, Jialun Zhai, Xing-Dong Yang*

[C9] Proxino: Enabling Prototyping of Virtual Circuits With Physical Proxies.

Proceedings of the 32th Annual ACM Symposium on User Interface Software and Technology. **(UIST'19)**

***Te-Yen Wu**, Jun Gong, Teddy Seyed, Xing-Dong Yang*

[C8] TipText, Eyes-Free Text Entry on a Fingertip Keyboard.

Proceedings of the 32th Annual ACM Symposium on User Interface Software and Technology. **(UIST'19 Best Paper Award)**

*Zheer Xu, Pui Chung Wong, Jun Gong, **Te-Yen Wu**, Aditya Shekhar Nittala, Xiaojun Bi, Jürgen Steimle, Hongbo Fu, Kening Zhu, Xing-Dong Yang*

[C7] ARPilot: 6DOF Direct-Manipulation Interface for Drone Videography using Augmented Reality on Mobile Devices.

Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services **(MobileHCI'18)**

*Yu-An Chen, **Te-Yen Wu**, Tim Chang, Jun You Liu, Yuan-Chang Shieh, Leon Yulun Hsu, Ming-Wei Hsu, Paul Taele, Neng-Hao Yu, Mike Y. Chen*

[C6] ActiveErgo: Automatic and Personalized Ergonomics using Self-actuating Furniture

Proceedings of the 36th annual ACM conference on human factors in computing systems **(CHI '18)**

*Yu-Chian Wu, **Te-Yen Wu**, Yu-Chih Lin, Pin-sung Ku, Paul Taele, Po-En Lai, Bryan Wang, Mike Y. Chen*

[C5] SpeechBubbles: Enhancing the Captioning Experience for Users with Hearing-impairment in Group Conversations.

Proceedings of the 36th annual ACM conference on human factors in computing systems **(CHI '18)**

*Ming-Mei Hsu, Yi-Hao Peng, Ting-Tu Lin, Leon Hsu, Po-En Lai, Paul Taele, **Te-Yen Wu**, Hsien-Hui Tang, Mike Y. Chen*

[C4] CircuitSense: Automatic Sensing of Physical Circuits and Generation of Virtual Circuits to Support Software Tools.

Proceedings of the 32th Annual ACM Symposium on User Interface Software and Technology. **(UIST'17)**

***Te-Yen Wu**, Bryan Wang, Jiun-Yu Lee, Hao-Ping Shen, Yu-Chian Wu, Yu-An Chen, Pin-Sung Ku, Ming-Wei Hsu, Yu-Chih Lin, Mike Y. Chen*

[C3] CurrentViz: Sensing and Visualizing Electric Current of Breadboarded Circuits.

Proceedings of the 30th Annual ACM Symposium on User Interface Software and Technology. **(UIST'17)**

***Te-Yen Wu**, Hao-Ping Shen, Yu-Chian Wu, Yu-An Chen, Pin-Sung Ku, Ming-Wei Hsu, Jun-You Liu, Yu-Chih Lin, Mike Y. Chen.*

[C2] CircuitStack: Supporting Rapid Prototyping and Evolution of Electronic Circuits.

Proceedings of the 29th Annual ACM Symposium on User Interface Software and Technology. **(UIST'16)**

*Chiuan Wang, Hsuan-Ming Yeh, Bryan Wang, **Te-Yen Wu**, Hsin-Ruey Tsai, Rong-Hao Liang, Yi-Ping Hung, Mike Y. Chen.*

[C1] Giggler: An Intuitive, Real-Time Integrated Wireless In-Ear Monitoring and Personal Mixing System using Mobile Devices.

Proceedings of the 23rd ACM international conference on Multimedia **(MM'15)**

*Andries Valstar, Min-Chieh Hsiu, **Te-Yen Wu**, Mike Y. Chen*

Posters & Demos

[VRST 2017 Poster] EyeExpression: Exploring The Use of Eye Expressions As Hands-free Input for Virtual and Augmented reality devices *Pin-Sung Ku, **Te-Yen Wu**, and Mike Y. Chen.*

[VRST 2017 Poster] PeriText+: Utilizing Peripheral Vision for Reading Text on Augmented Reality Smart Glasses
*Yu-Chih Lin, Jun-You Liu, Yu-Chian Wu, Pin-Sung Ku, Katherine Chen, **Te-Yen Wu**, Yu-An Chen, and Mike Y. Chen.*

[UIST 2017 Demo] CurrentViz: Sensing and Visualizing Electric Current of Breadboarded Circuits ***Te-Yen Wu**, Hao-Ping Shen, Yu-Chian Wu, Yu-An Chen, Pin-Sung Ku, Ming-Wei Hsu, Jun-You Liu, Yu-Chih Lin, and Mike Y. Chen.*

[CHI 2017 Poster] SegTouch: Enhancing Touch Input While Providing Touch Gestures on Screens Using Thumb-To-Index-Finger Gestures *Hsin-Ruey Tsai, **Te-Yen Wu**, Da-Yuan Huang, Min-Chieh Hsiu, Jui-Chun Hsiao, Yi-Ping Hung, Mike Y. Chen, and Bing-Yu Chen*

[CHI 2017 Student Game Competition] Party Animals: Creating Immersive Gaming Experience for Physically Co-present VR and Non-VR Players *Ming-Wei Hsu, **Te-Yen Wu**, Yu-Chian Wu, Yu-An Chen, Yu-Chih Lin, and Pin-Sung Ku.*

[UIST 2016 Demo] CircuitStack: Supporting Rapid Prototyping and Evolution of Electronic Circuits *Chiuan Wang, Hsuan-Ming Yeh, Bryan Wang, **Te-Yen Wu**, Hsin-Ruey Tsai, Rong-Hao Liang, Yi-Ping Hung, and Mike Y. Chen.*

Selected Patents

[P2] A Smart Fabric Technique That Recognizes Metallic and Non-Metallic Objects, as well as Touch Input *(Dartmouth)*

[P1] Enabling Prototyping of Virtual Circuits With Physical Proxies. *(Dartmouth)*

Selected Press Coverage

Engadget *Smart fabric can recognize the food you put on the table*
TechExplore *Capacitivo: A contact-sensitive technique that can be used to make smart tablecloths*
The Science Times *Smart Fabric Can Suggest What Meal To Cook Based on What's On the Table*
Telegraph UK *Microsoft's smart tablecloth tells you what to dish up for dinner*

Ethical Editor *Capacitivo: A contact-sensitive technique that can be used to make smart tablecloths*
Drew Reports News *Smart Fabric Can Recognize the Food You Keep on Your Table*
SomagNews *The smart fabric can recognize the objects you put in!*

Academic Services

UIST 2025 **Workshop Chairs,** Organizers
CHI 2025 **Program Committee Associate Chair (AC),** Paper
UIST 2024 **Program Committee,** Paper
UIST 2024 **Workshop Chairs,** Organizers
CHI 2024 **Program Committee Associate Chair (AC),** Paper
UIST 2023 **Data Chairs,** Organizers
CHI 2021 **Program Committee Associate Chair (AC),** Late Breaking Work
CHI 2020 **Program Committee Associate Chair (AC),** Late Breaking Work
Reviewer (95 reviews), CHI, UIST, IMWUT, MobileHCI, TEI, CSCW, ISS, Nature

References

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