Shih-Yi (James) Chien

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Dept. of Management Information Systems
National Chengchi University, Taipei, Taiwan

Research Interests

Human-Robot Interaction, Human-Automation Collaboration, Trust in Automation, XAI

Professional Experience

Assistant Professor, Dept. of Management Information Systems — 2018-
National Chengchi University, Taipei, Taiwan
- Co-PI, AI Research Center
- Director, Human-Automation Interaction Lab

Assistant Professor, Dept. of Management Information — 2017-2018
National Sun Yat-sen University, Kaohsiung, Taiwan

Teaching Fellow, School of Computing and Information — 2015-2017
University of Pittsburgh, Pittsburgh, USA

Research Assistant, School of Computing and Information — 2009-2017
University of Pittsburgh, Pittsburgh, USA

Instructor, Dept. of Asian Languages — 2008-2009
University of Pittsburgh, Pittsburgh, USA

Education

Ph.D. in Information Science — 2017
M.S. in Information Science — 2009
University of Pittsburgh, Pittsburgh, USA
Dissertation: The Influence of Cultural Factors on Trust in Automation
Adviser: Prof. Michael Lewis (Information Science, Univ. of Pittsburgh)
Prof. Katia Sycara (Robotics, Carnegie Mellon University)

B.S. in Information Management — 2004
Chung Hua University, Hsinchu, Taiwan

Publications

Journal Articles

[J13] **Chien, S. Y.,** Lin, Y. L. & Chang, B. F. (2022). The Effects of Intimacy and Proactivity on Trust in Human-Humanoid Robot Interaction. *Information Systems Frontiers.*

[J12] Lin, Y. L., **Chien, S. Y.,** Su, W. C. & Hsiao, S. (2022). Coding Peekaboom: A Gaming Mechanism for Harvesting Programming Concepts. *Education and Information Technologies.*

[J11] **Chien, S. Y.,** Chao, S. F., Kang, Y., Hsu, C., Yu, M. H., & Ku, T. K. (2022). Understanding Predictive Factors of Dementia for Older Adults: A Machine Learning Approach for Modeling Dementia Influencers. *International Journal of Human-Computer Studies.*

[J10] **Chien, S. Y.,** Yang, C. J. & Fang, Y. (2022). XFlag: Explainable Fake News Detection Model on Social Media. *International Journal of Human–Computer Interaction.*

[J9] Jeng, W. Tang, G. M., Hu, H. M., & **Chien, S. Y.** (2021). Cultural Differences in the Allocation of Attention to Information Architecture Components. *Journal of Library and Information Studies.*

[J8] Lin, Y. L., **Chien, S. Y.,** Chen, Y. U. (2021). Posting Recommendations in Healthcare Q&A Forums. *Electronics.*

[J7] Lin, S. Y., **Chien, S. Y.,** Hsiao, C. L., Hsia, C. H., & Chao, K. M. (2020). Enhancing Computational Thinking Capability of Preschool Children by Game-based Tangible User Interface. *Electronic Commerce Research and Applications.*

[J6] **Chien, S. Y.,** Lewis, M., Sycara, K., Liu, J. S., & Kumru, A. (2019). Influence of Culture, Transparency, Trust, and Degree of Automation on Automation Use. *IEEE Transactions on Human-Machine Systems.*

[J5] **Chien, S. Y.,** Lewis, M., Sycara, K., Liu, J. S., & Kumru, A. (2018). The Effect of Culture on Trust in Automation: Reliability and Workload. *ACM Transactions on Interactive Intelligent Systems.*

[J4] **Chien, S. Y.,** Lin, Y. L., Lee, P. J., Han, S., Lewis, M., & Sycara, K. (2018). Attention Allocation for Human Multi-robot Control: Cognitive Analysis Based on Behavior Data and Hidden States. *International Journal of Human-Computer Studies.*

[J3] Lewis, M., Wang, H., **Chien, S. Y.,** Ma, Z., Velagapudi, P., Scerri, P., & Sycara, K. (2011). Process and performance in human-robot teams, *Journal of Cognitive Engineering and Decision Making*.

[J2] Scerri, P., Ma, Z., **Chien, S. Y.,** Wang, H., Lee, P., Lewis, M., & Sycara, K. (2011). An initial evaluation of approaches to building entry for large robot teams, *Journal of Intelligent and Robotic Systems.*

[J1] Lewis, M., Wang, H., **Chien, S. Y.,** Velagapudi, P., Scerri, P., & Sycara, K. (2010). Choosing autonomy modes for multirobot search, *Human Factors.*

Conference Proceedings

[C34] Tsao, C. C., Chuang, H. H., Tsao, T. H., Tang, C. Y., Chang, Y. W., Chu, C. L., Sung, C. C. Hsieh, C. L., Lin, Y. P. & **Chien, S. Y**. (2023). Assessing the Decision-Making Process in Human-Robot Collaboration Using a Lego-like EEG Headset. *Hawaii International Conference on System Sciences (HICSS 23).*

[C33] Weng, Y. L., **Chien, S. Y**. & Lin, S. Y. (2022). Fake reviews detection with hybrid features using time-sequential deep learning model. *International Conference on Human-Machine Systems (IEEE ICHMS 22).*

[C32] **Chien, S. Y**., Chen, C. L, & Chan, Y. C. (2022). The Influence of Personality Traits in Human-Humanoid Robot Interaction. *Association for Information Science & Technology (ASIS&T).*

[C31] Hsu, C., Tsao, C. C., Weng, Y. L., Tang, C. Y., Chang, Y. W., Kang, Y., & **Chien, S. Y**. (2022). A Machine Learning Approach to Model HRI Research Trends in 2010~2021. *ACM/IEEE International Conference on Human-Robot Interaction (HRI 22).*

[C30] Chang, B. F., **Chien, S. Y**. & Lin, Y. L. (2021). The Effect of Communication Approaches on Intimacy in Human-Humanoid Robot Interaction. *International Conference on Human-Machine Systems (IEEE ICHMS 21).*

[C29] Luo, J. T., Lin, Y. L. & **Chien, S. Y**. (2020). Exploring the role of media richness to information disclosure. *IEEE International Conference on Human-Machine Systems (IEEE ICHMS 20).*

[C28] Sun, C. F., Chan, Y. C., **Chien, S. Y.**, Lin, Y. L., & Hsiao, I. H. (2020). Preschool Safety Education with Digital Media-based Learning Application– Kinder. *Proceedings of the 2020 HCI International (HCII 20).*

[C27] Tang, G. M., Hu, H. M., **Chien, S. Y.**, & Jeng, W. (2020). A Cross-cultural Study on Information Architecture: Culture Differences on Attention Allocation to Web Components. *iConference.*

[C26] Semnani-Azad, Z., **Chien, S. Y.**, Forster, Y., Schuckers, S. & Gan, H. (2019). Impact of Cultural Factors in Trusting Biometric Technology. *52th Hawaii International Conference on System Sciences (HICSS 2019).*

[C25] **Chien, S. Y.**, Hsiao, I. H. & Kang, Y. (2018). The Effect of Applying Visual Programming Language for Developing Robotic Systems. *22th Pacific Asia Conference on Information Systems: Poster Session (PACIS 18).*

[C24] **Chien, S. Y.** & Lin, P. H. (2018). Interaction Quality of Human-Robot Collaboration– A Case Study of Da Vinci Surgical System: Extended Abstract. *2018 INFORMS International Conference (INFORMS 18).*

[C23] Semnani-Azad, Z., **Chien, S. Y.** & Schuckers, S. (2018). Impact of Cultural Factors in Trusting Biometric Technology. *51th Hawaii International Conference on System Sciences Symposium: Credibility Assessment and Screening Technologies (HICSS 2018).*

[C22] **Chien, S. Y.,** Lewis, M., Sycara, K., Liu, J. S., & Kumru, A. (2016). Influence of Cultural Factors in Dynamic Trust in Automation. *Proceedings of the 2016 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 16).*

[C21] **Chien, S. Y.,** Lewis, M., Sycara, K., Liu, J. S., & Kumru, A. (2016). Relation between Trust Attitudes Toward Automation, Hofstede's Cultural Dimensions, and Big Five Personality Traits. *Proceedings of the 60th Annual Meeting of the Human Factors and Ergonomics Society (HFES 16).*

[C20] **Chien, S. Y.,** Lewis, M., Hergeth, S., Semnani-Azad, Z., & Sycara, K. (2015). Cross-Country Validation of a Cultural Scale in Measuring Trust in Automation. *Proceedings of the 59th Annual Meeting of the Human Factors and Ergonomics Society (HFES 15).*

[C19] Nagavalli, S., **Chien, S. Y.,** Lewis, M., Chakraborty, N., & Sycara, K. (2015). Bounds of Neglect Benevolence in Input Timing for Human Interaction with Robotic Swarms. *Proceedings of the 10th ACM/IEEE International Conference on Human-Robot Interaction (HRI 15).*

[C18] **Chien, S. Y.,** Semnani-Azad, Z., Lewis, M., & Sycara, K. (2014). An Empirical Model of Cultural Factors on Trust in Automation. *Proceedings of the 58th Annual Meeting of the Human Factors and Ergonomics Society (HFES 14).*

[C17] **Chien, S. Y.,** Semnani-Azad, Z., Lewis, M., & Sycara, K. (2014). Towards the development of an Inter-Cultural Scale to Measure Trust in Automation. *Proceedings of the 2014 HCI International (HCII 14)* **[*Best Paper Award*].**

[C16] Lewis, M., **Chien, S. Y.,** Mehrotra, S., Chakraborty, N., & Sycara, K. (2014). Task Switching and Single vs. Multiple Alarms for Supervisory Control of Multiple Robots. *Proceedings of the 2014 HCI International (HCII 14).*

[C15] Lewis, M., **Chien, S. Y.,** Mehrotra, S., Chakraborty, N., & Sycara, K. (2014). Task Switching and Cognitively Compatible guidance for Control of Multiple Robots. *Proceedings of the 2014 IEEE International Conference on Robotics and Biomimetics (IEEE ROBIO 14).*

[C14] **Chien, S. Y.,** Mehrotra, S., Lewis, M., & Sycara, K. (2013). Imperfect Automation in Scheduling Operator Attention on Control of Multi-Robots. *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society (HFES 13).*

[C13] **Chien, S. Y.,** Mehrotra, S., Lewis, M., & Sycara, K. (2012). Effects of Unreliable Automation in Scheduling Operator Attention for Multi-Robot Control. *Proceedings of the 2012 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 12)* **[*Best Student Paper Award Nomination*]**.

[C12] **Chien, S. Y.,** Mehrotra, S., Brooks, N., Lewis, M., & Sycara, K. (2012). Scheduling Operator Attention for Multi-Robot Control. *Proceedings of the 2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IEEE IROS 12).*

[C11] **Chien, S. Y.,** Wang, H., & Lewis, M. (2011). Effects of Spatial Ability on Multi-robot Control Tasks. *Proceedings of the 55th Annual Meeting of the Human Factors and Ergonomics Society.*

[C10] **Chien, S. Y.,** Mehrotra, S., Wang, H., Lewis, M., & Sycara, K. (2011). Effects of Alarms on Control of Robot Teams. *Proceedings of the 55th Annual Meeting of the Human Factors and Ergonomics Society (HFES 11).*

[C9] Brooks, N., Wang, H., Kolling, A., Abedin, S., Lee, P., **Chien, S. Y.,** Lewis, M., Owens, S., Scerri, P., & Sycara, K. (2011). Asynchronous Control With ATR for Large Robot Teams. *Proceedings of the 55th Annual Meeting of the Human Factors and Ergonomics Society (HFES 11).*

[C8] Wang, H., Kolling, A., Abedin, S., Lee, P., **Chien, S. Y.,** Lewis, M., Brooks, N., Owens, S., Scerri, P., & Sycara, K. (2011). Scalable target detection for large robot teams, *Proceedings of the 6th ACM/IEEE International Conference on Human-Robot Interaction (IEEE HRI 11).*

[C7] **Chien, S. Y.,** Wang, H., & Lewis, M. (2010). Human vs. algorithmic path planning for search and rescue by robot teams, *Proceedings of the 54th Annual Meeting of the Human Factors and Ergonomics Society (HFES 10).*

[C6] Scerri, P., Velagapudi, P., Sycara, K., Wang, H., **Chien, S. Y.,** & Lewis, M. (2010). Towards an understanding of the impact of autonomous path planning on victim search in USAR, *Proceedings of the 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IEEE IROS 10).*

[C5] Wang, H., Lewis, M., **Chien, S. Y.**, Scerri, P., Velagapudi, P., Sycara, K., & Kane, B. (2010). Teams organization and performance in multi-human/multi-robot teams, *Proceedings of the 2010 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 10).*

[C4] Wang, H., Lewis, M., & **Chien, S.** (2010). Teams organization and performance analysis in autonomous human-robot teams. *Proceedings of the 10th Performance Metrics for Intelligent Systems Workshop. ACM.*

[C3] Lee, P., Wang, H., **Chien, S. Y.,** Lewis, M., Scerri, P., Velagapudi, P., Sycara, K., & Kane, B. (2010). Teams for Teams: Performance in Multi-Human/Multi-Robot Teams. *Proceedings of the 54th Annual Meeting Human Factors and Ergonomics Society (HFES 10).*

[C2] Wang, H., **Chien, S. Y.,** Lewis, M., Velagapudi, P., Scerri, P., & Sycara, K. (2009). Human teams for large scale multirobot control, *Proceedings of the 2009 IEEE International Conference on Systems, Man, and Cybernetics (SMC 09).*

[C1] Wang, H., Lewis, M., **Chien, S. Y.,** & Velagapudi, P. (2009). Scaling effects for synchronous vs. asynchronous video in multi-robot search, *Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting (HFES 09).*

Grants

PI, National Science and Technology Council, Taiwan ($2,700,000 NTD) 2022-2025
Topic: *The Use of Social Humanoid Robot for Supporting Older Adults with Mild Cognitive Impairment: A Combination of Usability Evaluations and Machine Learning Approaches on Assistive Technology*

PI, National Chengchi University, Taiwan ($325,000 NTD) 2022
Topic: *Mixed Reality in Medical Care System*

PI, National Chengchi University, Taiwan ($300,720 NTD) 2021
Topic: *Mixed Reality in User Experience*

PI, National Science and Technology Council, Taiwan ($1,340,000 NTD) 2020-2022
Topic: *Human-Humanoid Robot Interaction in Healthcare*

PI, National Science and Technology Council, Taiwan ($1,125,000 NTD) 2018-2020
Topic: *The Impact of Cultural Dynamics on Human-Humanoid Robot Collaboration*

Honors and Awards

Excellent Paper Award in Information Management and Innovative Application
Fubon Life Management Doctor and Master Thesis Award, 2022
Chinese Management Association, Taiwan

Teaching Outstanding Award (Excellent Undergraduate English-taught Course)
Course: Introduction to Computer Science, 2018
Course: User Experience Design, 2020
National Chengchi University, Taiwan

Best Paper Award
Towards the development of an Inter-Cultural Scale to Measure Trust in Automation
International Conference on Human-Computer Interaction (HCII 2014)

Best Student Paper Honorable Mention Award
Effects of Unreliable Automation in Scheduling Operator Attention for Multi-Robot Control
IEEE International Conference on Systems, Man, and Cybernetics, 2012 (IEEE SMC 2012)

Teaching Experience

National Chengchi University, Taipei, Taiwan
Undergraduate: Introduction to Computer Science (2018-now)
Graduate: User Experience Design (2018-now)
Intelligent Robotic Systems: Design and Applications (2018, 2019)

National Sun Yat-sen University, Kaohsiung, Taiwan
Undergraduate: Web Programming (2017); Database Management (2017)
Graduate: Intelligent Robotic Systems (2017); Mobile UX (2017)

University of Pittsburgh, Pittsburgh, USA
Human Factors in Systems (2015, 2016)

Professional Services

Editorial Board
International Journal of Human Computer Interaction, 2022-now

Board Member
International Conference on Human-Computer Interaction, 2020-now

Associate Editor
IEEE International Conference on Systems, Man, and Cybernetics, 2021, 2022

Program Chair
Conference of Taiwanese Association of Computer-Human Interaction (TAICHI), 2021, 2022

Program Committee Member
Pacific Asia Conference on Information Systems (PACIS), 2020
IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC), 2018, 2019

Reviewer
ACM Interactive, Mobile, Wearable and Ubiquitous Technologies
ACM Transactions on Interactive Intelligent Systems
Autonomous Robots
Computers in Human Behavior
Electronic Commerce Research and Application
iConference
IEEE Access
IEEE International Conference on Robotics and Automation
IEEE International Conference on Systems, Man, and Cybernetics
IEEE International Conference on Information Reuse and Integration for Data Science
IEEE Transactions on Human-Machine Systems
IEEE Transactions on Automation Science and Engineering
International Journal of Human-Computer Interaction
International Journal of Industrial Ergonomics
Journal of Cognitive Engineering and Decision Making
Journal of e-Business
Journal of Human-Robot Interaction
Journal of Intelligent and Robotic Systems
Journal of Library and Information Studies
Journal of Management and Systems
Web Intelligence

References

Available upon request.