

Shih-Yi (James) Chien

gsechien@gmail.com

<https://gsechien.github.io>

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

RESEARCH INTERESTS

Human-Robot Interaction, Social Robots, Trust in Automation, Human Factors, XAI

PROFESSIONAL EXPERIENCE

Associate Professor, Dept. of Management Information Systems National Chengchi University, Taipei, Taiwan - Co-PI, AI Research Center - Director, Human-Automation Interaction Lab	2023-
Assistant Professor, Dept. of Management Information Systems National Chengchi University, Taipei, Taiwan	2018-2023
Assistant Professor, Dept. of Management Information National Sun Yat-sen University, Kaohsiung, Taiwan	2017-2018
Teaching Fellow, School of Computing and Information University of Pittsburgh, Pittsburgh, USA	2015-2017
Research Assistant, School of Computing and Information University of Pittsburgh, Pittsburgh, USA	2009-2017
Instructor, Dept. of Asian Languages University of Pittsburgh, Pittsburgh, USA	2008-2009

EDUCATION

Ph.D. in Information Science	2017
M.S. in Information Science 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)	2009
B.S. in Information Management Chung Hua University, Hsinchu, Taiwan	2004

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. *IEEE Transactions on Human-Machine Systems*.
- [J12] Lin, Y. L., **Chien, S. Y.**, Su, W. C. & Hsiao, S. (2022). Coding Peekaboom: A Gaming Mechanism for Harvesting Programming Concepts. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*.
- [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. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*.
- [J10] **Chien, S. Y.**, Yang, C. J. & Fang, Y. (2022). XFlag: Explainable Fake News Detection Model on Social Media. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*.

- [J9] Jeng, W. Tang, G. M., Hu, H. M., & **Chien, S. Y.** (2021). Cultural Differences in the Allocation of Attention to Information Architecture Components. *International Journal of Human-Computer Studies* 103000.
- [J8] Lin, Y. L., **Chien, S. Y.**, Chen, Y. U. (2021). Posting Recommendations in Healthcare Q&A Forums. *Healthcare* 9(12), 1800.
- [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. *International Journal of Human-Computer Studies* 103000.
- [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 Systems, Man, and Cybernetics: Systems* 49(12), 2400-2412.
- [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 Computer-Human Interaction* 25(4), 1-27.
- [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* 103000.
- [J3] Lewis, M., Wang, H., **Chien, S. Y.**, Ma, Z., Velagapudi, P., Scerri, P., & Sycara, K. (2011). Process and performance in human-robot teams, *International Journal of Human-Computer Studies* 57(12), 1200-1215.
- [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, *International Journal of Human-Computer Studies* 57(12), 1200-1215.
- [J1] Lewis, M., Wang, H., **Chien, S. Y.**, Velagapudi, P., Scerri, P., & Sycara, K. (2010). Choosing autonomy modes for multirobot search, *Human-Computer Interaction* 25(12), 1200-1215.

Conference Proceedings

- [C35] Tsao, C. C., Tang, C. Y., Chang, Y. W., Sung, Y. H., **Chien, S. Y.** & Lin, S. Y. (2023). The Influence of a Robot Recommender System on Impulse Buying Tendency. *ACM/IEEE International Conference on Human-Computer Interaction* 2300.
- [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. *International Conference on Human-Computer Interaction* 2300.
- [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-Computer Interaction* 2200.
- [C32] **Chien, S. Y.**, Chen, C. L., & Chan, Y. C. (2022). The Influence of Personality Traits in Human-Humanoid Robot Interaction. *International Conference on Human-Computer Interaction* 2100.
- [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-Computer Interaction* 2200.
- [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-Computer Interaction* 2100.
- [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-Computer Interaction* 2000.
- [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. *International Conference on Human-Computer Interaction* 2000.

- [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. *CHI 2020*
- [C26] Semnani-Azad, Z., **Chien, S. Y.**, Forster, Y., Schuckers, S. & Gan, H. (2019). Impact of Cultural Factors in Trusting Biometric Technology. 520 *HICSS 2019*
- [C25] **Chien, S. Y.**, Hsiao, I. H. & Kang, Y. (2018). The Effect of Applying Visual Programming Language for Developing Robotic Systems. 220 *APACIS 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*
- [C23] Semnani-Azad, Z., **Chien, S. Y.** & Schuckers, S. (2018). Impact of Cultural Factors in Trusting Biometric Technology. 510 *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. 2016 *IEEE SMC*
- [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. 600 *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. 590 *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. 100 *ACM/IEEE HRI 15*
- [C18] **Chien, S. Y.**, Semnani-Azad, Z., Lewis, M., & Sycara, K. (2014). An Empirical Model of Cultural Factors on Trust in Automation. 580 *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. 2014 *HCI* [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. 2014 *HCI*
- [C15] Lewis, M., **Chien, S. Y.**, Mehrotra, S., Chakraborty, N., & Sycara, K. (2014). Task Switching and Cognitively Compatible guidance for Control of Multiple Robots. 2014 *IEEE ROBIO*
- [C14] **Chien, S. Y.**, Mehrotra, S., Lewis, M., & Sycara, K. (2013). Imperfect Automation in Scheduling Operator Attention on Control of Multi-Robots. 570 *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. 2012 *IEEE SMC* [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. 2012 *IEEE RSJ*
- [C11] **Chien, S. Y.**, Wang, H., & Lewis, M. (2011). Effects of Spatial Ability on Multi-robot Control Tasks. 550 *HFES 11*

- [C10] **Chien, S. Y.**, Mehrotra, S., Wang, H., Lewis, M., & Sycara, K. (2011). Effects of Alarms on Control of Robot Teams. *IEEE Transactions on Systems, Man, and Cybernetics - Part A* 41(6), 1111-1121.
- [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. *IEEE Transactions on Systems, Man, and Cybernetics - Part A* 41(6), 1111-1121.
- [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, *IEEE Transactions on Systems, Man, and Cybernetics - Part A* 41(6), 1111-1121.
- [C7] **Chien, S. Y.**, Wang, H., & Lewis, M. (2010). Human vs. algorithmic path planning for search and rescue by robot teams, *IEEE Transactions on Systems, Man, and Cybernetics - Part A* 40(6), 1111-1121.
- [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, *2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* 1000-1005.
- [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, *2010 IEEE International Conference on Systems, Man, and Cybernetics (SMC)* 1000-1005.
- [C4] Wang, H., Lewis, M., & **Chien, S.** (2010). Teams organization and performance analysis in autonomous human-robot teams. *2010 IEEE International Conference on Systems, Man, and Cybernetics (SMC)* 1000-1005.
- [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. *IEEE Transactions on Systems, Man, and Cybernetics - Part A* 40(6), 1111-1121.
- [C2] Wang, H., **Chien, S. Y.**, Lewis, M., Velagapudi, P., Scerri, P., & Sycara, K. (2009). Human teams for large scale multirobot control, *2009 IEEE International Conference on Systems, Man, and Cybernetics (SMC)* 0900-0905.
- [C1] Wang, H., Lewis, M., **Chien, S. Y.**, & Velagapudi, P. (2009). Scaling effects for synchronous vs. asynchronous video in multi-robot search, *IEEE Transactions on Systems, Man, and Cybernetics - Part A* 39(6), 0900-0905.

GRANTS

PI , National Science and Technology Council, Taiwan (\$2,700,000 NTD)	2022-2025
Topic: <i>Development of a multi-robot system for search and rescue in disaster scenarios</i>	
PI , National Chengchi University, Taiwan (\$325,000 NTD)	2022
Topic: <i>Multi-robot system for search and rescue in disaster scenarios</i>	
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$519,208 NTD)	2022
Topic: <i>Development of a multi-robot system for search and rescue in disaster scenarios</i>	
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$523,857 NTD)	2022
Topic: <i>Development of a multi-robot system for search and rescue in disaster scenarios</i>	
PI , National Chengchi University, Taiwan (\$300,720 NTD)	2021
Topic: <i>Multi-robot system for search and rescue in disaster scenarios</i>	
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$449,308 NTD)	2021
Topic: <i>Development of a multi-robot system for search and rescue in disaster scenarios</i>	
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$445,730 NTD)	2021
Topic: <i>Development of a multi-robot system for search and rescue in disaster scenarios</i>	

PI , National Science and Technology Council, Taiwan (\$1,340,000 NTD)	2020-2022
<u>Topic:</u> H₂O CO₂ N₂ CH₄ C₂H₆ C₃H₈ C₄H₁₀ C₅H₁₂ C₆H₁₄ C₇H₁₆ C₈H₁₈ C₉H₂₀ C₁₀H₂₂ C₁₁H₂₄ C₁₂H₂₆ C₁₃H₂₈ C₁₄H₃₀ C₁₅H₃₂ C₁₆H₃₄ C₁₇H₃₆ C₁₈H₃₈ C₁₉H₄₀ C₂₀H₄₂ C₂₁H₄₄ C₂₂H₄₆ C₂₃H₄₈ C₂₄H₅₀ C₂₅H₅₂ C₂₆H₅₄ C₂₇H₅₆ C₂₈H₅₈ C₂₉H₆₀ C₃₀H₆₂ C₃₁H₆₄ C₃₂H₆₆ C₃₃H₆₈ C₃₄H₇₀ C₃₅H₇₂ C₃₆H₇₄ C₃₇H₇₆ C₃₈H₇₈ C₃₉H₈₀ C₄₀H₈₂ C₄₁H₈₄ C₄₂H₈₆ C₄₃H₈₈ C₄₄H₉₀ C₄₅H₉₂ C₄₆H₉₄ C₄₇H₉₆ C₄₈H₉₈ C₄₉H₁₀₀ C₅₀H₁₀₂ C₅₁H₁₀₄ C₅₂H₁₀₆ C₅₃H₁₀₈ C₅₄H₁₁₀ C₅₅H₁₁₂ C₅₆H₁₁₄ C₅₇H₁₁₆ C₅₈H₁₁₈ C₅₉H₁₂₀ C₆₀H₁₂₂ C₆₁H₁₂₄ C₆₂H₁₂₆ C₆₃H₁₂₈ C₆₄H₁₃₀ C₆₅H₁₃₂ C₆₆H₁₃₄ C₆₇H₁₃₆ C₆₈H₁₃₈ C₆₉H₁₄₀ C₇₀H₁₄₂ C₇₁H₁₄₄ C₇₂H₁₄₆ C₇₃H₁₄₈ C₇₄H₁₅₀ C₇₅H₁₅₂ C₇₆H₁₅₄ C₇₇H₁₅₆ C₇₈H₁₅₈ C₇₉H₁₆₀ C₈₀H₁₆₂ C₈₁H₁₆₄ C₈₂H₁₆₆ C₈₃H₁₆₈ C₈₄H₁₇₀ C₈₅H₁₇₂ C₈₆H₁₇₄ C₈₇H₁₇₆ C₈₈H₁₇₈ C₈₉H₁₈₀ C₉₀H₁₈₂ C₉₁H₁₈₄ C₉₂H₁₈₆ C₉₃H₁₈₈ C₉₄H₁₉₀ C₉₅H₁₉₂ C₉₆H₁₉₄ C₉₇H₁₉₆ C₉₈H₁₉₈ C₉₉H₂₀₀ C₁₀₀H₂₀₂ C₁₀₁H₂₀₄ C₁₀₂H₂₀₆ C₁₀₃H₂₀₈ C₁₀₄H₂₁₀ C₁₀₅H₂₁₂ C₁₀₆H₂₁₄ C₁₀₇H₂₁₆ C₁₀₈H₂₁₈ C₁₀₉H₂₂₀ C₁₁₀H₂₂₂ C₁₁₁H₂₂₄ C₁₁₂H₂₂₆ C₁₁₃H₂₂₈ C₁₁₄H₂₃₀ C₁₁₅H₂₃₂ C₁₁₆H₂₃₄ C₁₁₇H₂₃₆ C₁₁₈H₂₃₈ C₁₁₉H₂₄₀ C₁₂₀H₂₄₂ C₁₂₁H₂₄₄ C₁₂₂H₂₄₆ C₁₂₃H₂₄₈ C₁₂₄H₂₅₀ C₁₂₅H₂₅₂ C₁₂₆H₂₅₄ C₁₂₇H₂₅₆ C₁₂₈H₂₅₈ C₁₂₉H₂₆₀ C₁₃₀H₂₆₂ C₁₃₁H₂₆₄ C₁₃₂H₂₆₆ C₁₃₃H₂₆₈ C₁₃₄H₂₇₀ C₁₃₅H₂₇₂ C₁₃₆H₂₇₄ C₁₃₇H₂₇₆ C₁₃₈H₂₇₈ C₁₃₉H₂₈₀ C₁₄₀H₂₈₂ C₁₄₁H₂₈₄ C₁₄₂H₂₈₆ C₁₄₃H₂₈₈ C₁₄₄H₂₉₀ C₁₄₅H₂₉₂ C₁₄₆H₂₉₄ C₁₄₇H₂₉₆ C₁₄₈H₂₉₈ C₁₄₉H₃₀₀ C₁₅₀H₃₀₂ C₁₅₁H₃₀₄ C₁₅₂H₃₀₆ C₁₅₃H₃₀₈ C₁₅₄H₃₁₀ C₁₅₅H₃₁₂ C₁₅₆H₃₁₄ C₁₅₇H₃₁₆ C₁₅₈H₃₁₈ C₁₅₉H₃₂₀ C₁₆₀H₃₂₂ C₁₆₁H₃₂₄ C₁₆₂H₃₂₆ C₁₆₃H₃₂₈ C₁₆₄H₃₃₀ C₁₆₅H₃₃₂ C₁₆₆H₃₃₄ C₁₆₇H₃₃₆ C₁₆₈H₃₃₈ C₁₆₉H₃₄₀ C₁₇₀H₃₄₂ C₁₇₁H₃₄₄ C₁₇₂H₃₄₆ C₁₇₃H₃₄₈ C₁₇₄H₃₅₀ C₁₇₅H₃₅₂ C₁₇₆H₃₅₄ C₁₇₇H₃₅₆ C₁₇₈H₃₅₈ C₁₇₉H₃₆₀ C₁₈₀H₃₆₂ C<	

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
XXXXXXXXXXXXX CXXXXXXXXXX H XXXCXXX XXXXXXXXXXXXXXX HCII 2014X

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 (IEEE SMC 2012)

TEACHING EXPERIENCE

National Chengchi University, Taipei, Taiwan

Undergraduate: Introduction to Computer Science (2018-)
 Graduate: User Experience Design (2018-)
 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-

Board Member

International Conference on Human-Computer Interaction, 2020-

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.