

Shih-Yi (James) Chien

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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 - 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

- [J15] **Chien, S. Y.**, Chen, C. L., & Chan, Y. C. (2023). The Effects of Intimacy and Proactivity on Trust in Human-Humanoid Robot Interaction. *International Journal of Human-Computer Interaction*. (Accepted Upon Revision).
- [J14] Wang, Y. F., Chen, Y. C., & **Chien, S. Y.** (2023). Citizens' Intention to Follow Recommendations from a Government-Supported AI-enabled System. *Public Policy and Administration*.
- [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

- [C40] Sun, Q., **Chien, S. Y.** & Hsiao, I. H. (2023). Theory of Planned Behavior Modeled Educational Technology for Waste Management Learning, *IEEE International Conference on Advanced Learning Technologies*.
- [C39] Sun, Q., Hsiao, I. H., & **Chien, S. Y.** (2023). Immersive Educational Technology for Waste Management Learning: A Study of Waste Detection and Feedback Delivery in Augmented Reality, *HCI International (HCII 23)*.
- [C38] Lu, W. I., Chen, Y. W., Shen, C. C., Tsai, P. H., Chu, Y. T., Hung, Y. H., **Chien, S. Y.**, Lee, J., & Chao, S. F. (2023). Social Robots for Older Adults in Medical Contexts, *HCI International (HCII 23)*.
- [C37] Lin, S.Y., Lai, Y. P., Chiang, H. C., Cheng, Y., & **Chien, S. Y.** (2023). Interactive Robot-Aided Diagnosis System for Children with Autism Spectrum Disorder. *HCI International (HCII 23)*.
- [C36] Sun, Q., Hsiao, I. H., & **Chien, S. Y.** (2023). Immersive Educational Recycling Assistant (ERA): Learning Waste Sorting in Augmented Reality, *International Conference of the Immersive Learning Research Network, iLRN*.
- [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-Robot Interaction (HRI 23)*.
- [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) <u>Topic</u> : <i>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</i>	2022-2025
PI , National Chengchi University, Taiwan (\$325,000 NTD) <u>Topic</u> : <i>Mixed Reality in Medical Care System</i>	2022
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$519,208 NTD) <u>Topic</u> : <i>Opportunities and Development of User Experience in Post-COVID-19 Era</i>	2022
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$523,857 NTD) <u>Topic</u> : <i>User Experience in Medical Care and Long-term Care</i>	2022
PI , National Chengchi University, Taiwan (\$300,720 NTD) <u>Topic</u> : <i>Mixed Reality in User Experience</i>	2021
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$449,308 NTD) <u>Topic</u> : <i>The Influence of Cultural Factors on Emerging Information and Communications Technology in the MIS Field</i>	2021
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$445,730 NTD) <u>Topic</u> : <i>A Multi-faceted Examination of User Experience Designs in the MIS-related Applications</i>	2021
PI , National Science and Technology Council, Taiwan (\$1,340,000 NTD) <u>Topic</u> : <i>Human-Humanoid Robot Interaction in Healthcare</i>	2020-2022
PI , Higher Education SPROUT Project, Ministry of Education, Taiwan (\$429,378 NTD) <u>Topic</u> : <i>The Adoption of Emerging Information Technology Across Cultures</i>	2020
PI , National Science and Technology Council, Taiwan (\$1,125,000 NTD) <u>Topic</u> : <i>The Impact of Cultural Dynamics on Human-Humanoid Robot Collaboration</i>	2018-2020

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 (HCI 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-)

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

Scientific Reports

Web Intelligence

REFERENCES

Available upon request.