Shih-Yi Chien

Assistant Professor
Dept. of Management Information Systems
National Chengchi University
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Research Interests

Human-Humanoid Robot Interaction, Human-Automation Collaboration, Trust in Automation, Brain Dynamics in Decision-Making, Information Transparency, XAI

Education

2017	**University of Pittsburgh** Ph.D. in Information Science Thesis: 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	**University of Pittsburgh** M.S. in Information Science Concentration: Adaptive E-learning Systems and Computer Accessibility
2004	**Chung Hua University, Taiwan** B.S. in Information Management Concentration: Interactive System Design and Programming Skills

Professional Experience

08/2018 – Present — *Assistant Professor*
Dept. of Management Information Systems, National Chengchi Univ.

- Undergraduate course: Introduction to Computer Science
- Graduate course: Intelligent Robotic Systems: Design & Applications, User Experience Design

08/2017 – 07/2018 — *Assistant Professor*
Dept. of Information Management, National Sun Yat-sen University

- Undergraduate course: Web Programming, Database Management
- Graduate course: Intelligent Robotic Systems, Mobile UX

2015-2017 — *Adjunct Faculty,* **University of Pittsburgh**

- Graduate course: Human Factors in Systems
- Master of Science in Information Science program
- Introduce human factors theory and practical applications
- Implement virtual reality tools to meet usability challenges

2009-2017 — *Research Assistant,* **University of Pittsburgh**

- Conduct research projects funded by Air Force & Navy research labs
- Design and implement user studies for more than 1000 participants
- Organize experimental studies in various countries (US, Taiwan, Turkey, and Germany)
- Collaborate with researchers from various fields (CS, Psychology and Robotics) in different sectors (academia, industry and military)

2008-2009 — *Instructor*, **Dept. of Asian Languages, University of Pittsburgh**
Taught conversational Chinese language skills to graduate students

Publications

Journal Articles

[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.,** Yi-Ju Chen. (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). Allocation of Attention for Supervisory Control in Multirobot Teams: A HMM-based analysis. *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.*

Peer-reviewed Conference Papers

[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.*

[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.*

[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).*

Professional Services
Editorial Board: International Journal of Human Computer Interaction, 2022~now
Board Member: International Conference on Human-Computer Interaction (*HCII 2020~2022*)
Associate Editor: IEEE International Conference on Systems, Man, and Cybernetics, 2021
Program Committee Member:
Pacific Asia Conference on Information Systems (PACIS 2020)
IEEE International Conference on Systems, Man, and Cybernetics (*IEEE SMC* 2018, 2019)

Paper 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

Honors and Awards

- Best Paper Award, International Conference on Human-Computer Interaction, 2014
- Best Student Paper Award Nomination, IEEE International Conference on Systems, Man, and Cybernetics, 2012
- NSF Student Travel Award – iConference, 2014
- Research Assistant Scholarship, University of Pittsburgh, 2009-2017

Invited Talks and Guest Lectures

Invited Talk on *User Experience Design*. Department of Information Management, Tamkang University, Taiwan, 2022.

Guest Lecture on *User Experience Design*. TransGlobe Life Insurance Inc. (全球人壽), Taiwan, 2021.

Guest Lecture on *Overview of User Experience*. Chunghwa Telecommunication Training Institute (中華電信學院), Taiwan, 2021.

Invited Talk on *User Experience Design*. Graduate Institute of Library & Information Studies, National Taiwan Normal University, Taiwan, 2021.

Invited Talk on *Information Transparency in User Experience*. Department of Computer Science and Information Engineering, National Ilan University, Taiwan, 2021.

Invited Talk on *Human-Automation Collaboration*. Department of Computer Science, National Chengchi University, Taiwan, 2021.

Invited Talk on *Cloud Computing in Digital Transformation*. College of Social Sciences, National Chengchi University, Taiwan, 2021.

Invited Talk on *Human-Robot Interaction*. Digital Content Technologies Program, National Chengchi University, Taiwan, 2020.

Invited Talk on *Human-Robot Interaction*. Department of Information Management, National Sun Yat-sen University, Taiwan, 2020.

Invited Talk on *Human-Automation Collaboration*. School of Public Administration, University of Nebraska Omaha, 2019.

Invited Talk on *Human-Automation Collaboration*. Department of Computer Science and Information Engineering, National Ilan University, Taiwan, 2019.

Invited Talk on *Human-Automation Collaboration*. Department of Information Management, National United University, Taiwan, 2019.

Invited Talk on *Human Factors in System Design*. Information Architecture and Web Design Course, National Taiwan University, Taiwan, 2017.

Invited Talk on *Influences of Cultural Factors on Trust in Automation*. Information Retrieval, Integration and Synthesis Lab, University of Pittsburgh, 2016.

Invited Talk on *Human Automation Interaction*. Dynamic Decision Making Laboratory, Carnegie Mellon University, 2015.

Guest Lecture on *Effects of Individual Differences in Spatial Ability*. Data Visualization Course, Columbia University, 2013.

Guest Lecture on *Human-robot Interaction*. Information Architecture Course, Fu-Jen Catholic University, Taiwan, 2012.

References

Available upon request.