Gaojian Huang, Ph.D.

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EDUCATION

Ph.D., Industrial Engineering — 2021
Purdue University, West Lafayette, IN

M.S., Psychology — 2020
Purdue University, West Lafayette, IN

M.S., Safety Management — 2016
Indiana University, Bloomington, IN

PROFESSIONAL APPOINTMENTS

Assistant Professor, Department of Industrial & Systems Engineering — 2021 – Present
San Jose State University, San Jose, CA

Research Associate, Mineta Transportation Institute — 2021 – Present
San Jose State University, San Jose, CA

Faculty Affiliate, Center on Healthy Aging in Multicultural Population — 2021 – Present
San Jose State University, San Jose, CA

RESEARCH INTERESTS

Human-automation/robot interaction, cyber-physical human systems, human behavior modeling, automated driving, multimodal displays, human-machine interface, universal design

RESEARCH GRANTS/FUNDING

- **National Science Foundation**. *CRII: HCC: Human-automation Interaction: Assistive and Adaptive Multimodal Interface to Support Older Adults in Complex Automated Systems* (Sole PI; $174,800). 2022 – 2024.
- **U.S. Department of Transportation**. *Mental States & Machine: Enhancing Driver Engagement in Automated Vehicles for Safer Transitions* (PI; $100,000). 2023 – 2024.
- **National Institutes of Health** (paperwork finalizing). *Promoting quality of life and independence of Latinx older adults through co-design of an augmented reality and tactile-based self-driving car interface.* (Sole PI; $50,000). 2024.
- **SJSU College of Engineering Small Group Project**. *Enhancing Automated Vehicle Takeover: Integrating Age, Mental State, and Assistive Technologies* (PI; $50,000). 2024.
- **Mineta Transportation Institute Emerging Leaders Seed Grant – U.S. Department of Transportation**. *Enhancing Road Safety by Addressing Hazards from Rental Vehicles* (Co-PI; $6,736). 2023 – 2024.
- **Honda Research Institute USA**. *Measuring Wellbeing in Hybrid Mobility* (Sole PI; $53,800). 2023.
- **American Honda Motor Company**. *Investigating Driver Safety Training in the Age of Autonomous Vehicles using Wearable Robots* (PI; $25,000). 2023 – 2024.
- **SJSU Research, Scholarship, and Creativity Activity (RSCA) Level-Up Grant**. *Modeling Mind Wandering and Task Performance in Semi-Autonomous Driving* (PI; $20,000). 2022 – 2023.

- **SJSU College of Engineering Small Group Project**. *A Teleoperated Robotic Training System for Percutaneous Needle Insertion Proficiency* (Co-PI; $100,000). 2022-2023.
- **Mineta Transportation Institute Emerging Leaders Seed Grant – U.S. Department of Transportation**. *Investigating the Effects of Alcohol Consumption on Manual and Automated Driving* (PI; $6,532). 2022 – 2023.
- **Honda Research Institute USA**. *Adaptive Driving Style for Automated Driving* (Sole PI; $63,600). 2021 – 2022.
- **Mineta Transportation Institute Emerging Leaders Seed Grant – U.S. Department of Transportation**. *Exploring the Effects of Individual Differences on Tactile Display Perception in Automated Vehicles* (Sole PI; $6,549). 2021 – 2022.
- **Mineta Transportation Institute Emerging Leaders Seed Grant – U.S. Department of Transportation**. *Investigating the Usability and Effectiveness of Public Transportation Technology in Older Adults during a Public Health Crisis* (PI; $6,547). 2021 – 2022.
- **Link Foundation Fellowship in Modeling, Simulation, & Training**. *Using Advanced Driving Simulation and Vibrotactile Cues to Train Older Drivers to Interact with Next-Generation Autonomous Vehicles* (Link Foundation Fellow; $30,000). 2020 – 2021.
- **HFES Augmented Cognition Technical Group Student Grant Award**. *Physiological Responses Predict Mind Wandering during Semi-Autonomous Driving: Implications for Takeover Performance* (Sole PI; $500). 2020.
- **HFES Aging Technical Group Student Research Scholarship**. *The Influence of Non-chronological Age Factors on Mental States and Takeover Performance in Next-Generation Autonomous Driving* (Sole PI; $500). 2019 – 2020

PUBLICATIONS

Peer-Reviewed Journal Articles

1. Martinez, K. D., & **Huang, G.** (2024). From young to old: The effects of information presentation type, multimodal display, and age on situation awareness and processing time in automated vehicles. *Transportation Research Part F: Traffic Psychology and Behaviour*, *103*, 128-140. https://doi.org/10.1016/j.trf.2024.04.002
2. Dong, M., Lee, Y. Y., Cha, J. S., & **Huang, G.** (2024). Drinking and driving: A systematic review of the impacts of alcohol consumption on manual and automated driving performance. *Journal of Safety Research*. https://doi.org/10.1016/j.jsr.2024.01.006
3. Sridhar, H., **Huang, G.**, Thorpe, A., Oishi, M., & Pitts, B. J. (2024). Characterizing the effect of mind wandering on partially autonomous braking dynamics. *ACM Transactions on Cyber-Physical Systems*. https://doi.org/10.1145/3653678
4. Luo, Y., Chen, Y., **Huang, G.**, & Hu, B. (2024). Exploring the impact of lighting sources on walking behavior in obstructed walkways among older adults. *Experimental Gerontology*, *196*, 112580. https://doi.org/10.1016/j.exger.2024.112580
5. Lee, Y., Dong, M., Krishnamoorthy, V., Akash, K., Misu, T., Zheng, Z., & **Huang, G.** (2023). Driving Aggressively or Conservatively? Investigating the Effects of Automated Vehicle Interaction Type and Road Event on Drivers' Trust and Preferred Driving Style. *Human Factors*. https://doi.org/10.1177/00187208231181199

6. Etu, E. E., Sureshbabu, K., Summerville, S., Parmar, A., & **Huang, G.** (2023). What Changes the Travel Pattern: A National Survey on the Impacts of the COVID-19 Pandemic on Older Adults' Public Transportation Usage. *Journal of Transport & Health*. https://doi.org/10.1016/j.jth.2023.101718
7. Werner, L., **Huang, G.**, & Pitts, B. J. (2023). Smart Speech Systems: A Focus Group Study on Older Adult User and Non-User Perceptions of Speech Interfaces. *International Journal of Human-Computer Interaction*. https://doi.org/10.1080/10447318.2022.2050541
8. **Huang, G.**, & Pitts, B. J. (2022). To Inform or to Instruct? An Evaluation of Meaningful Vibrotactile Patterns to Support Automated Vehicle Takeover Performance. *IEEE Transactions on Human-Machine Systems.* https://doi.org/10.1109/THMS.2022.3205880
9. Martinez, K. D., & **Huang, G.** (2022). In-Vehicle Human Machine Interface: Investigating the Effects of Tactile Displays on Information Presentation in Automated Vehicles. *IEEE Access*. https://doi.org/10.1109/ACCESS.2022.3205022
10. **Huang, G.**, Hung, Y. H., Proctor, R. W., & Pitts, B. J. (2022). Age is more than just a number: The relationship among age, non-chronological age factors, self-perceived driving abilities, and autonomous vehicle acceptance. *Accident Analysis and Prevention*. https://doi.org/10.1016/j.aap.2022.106850
11. **Huang, G.**, & Pitts, B. J. (2022). Takeover requests for automated driving: The effects of signal direction, lead time, and modality on takeover performance. *Accident Analysis and Prevention*. https://doi.org/10.1016/j.aap.2021.106534
12. **Huang, G.**, & Pitts, B. J. (2022). The Effects of Age and Physical Exercise on Multimodal Signal Responses: Implications for Semi-autonomous Vehicle Takeover Requests. *Applied Ergonomics, 98*. https://doi.org/10.1016/J.APERGO.2021.103595
13. **Huang, G.**, Luster, M., Karagol, I., Park, J. W., & Pitts, B. J. (2020). Self-Perception of Driving Abilities in Older Age: A Systematic Review. *Transportation Research Part F: Traffic Psychology and Behaviour*, 74, 307–321. https://doi.org/10.1016/j.trf.2020.08.020
14. Smith, T. D., DeJoy, D. M., Dyal, M. A., & **Huang, G.** (2019). Impact of work pressure, work stress and work–family conflict on firefighter burnout. *Archives of Environmental & Occupational Health*, 74(4), 215-222. https://doi.org/10.1080/19338244.2017.1395789

Peer-Reviewed Conference Proceedings

1. Lo, W. H., & **Huang, G.** (2024). Comparing Static and Dynamic Vibration Cues in Wristband Haptic Feedback for Enhanced Driver Response in Automated Vehicles. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. (Accepted)
2. Chu, A., & **Huang, G.** (2024). Assessing Meaningful Visual and Tactile Feedback for Effective Automated Vehicle Takeover by Hearing and Non- Hearing Drivers. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. (Accepted)
3. Lo, W. H., & **Huang, G.** (2024). A Survey on Perceptions of Smartwatch Haptic Feedback for Enhancing Automated Vehicle Takeover Decisions. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. SAGE Publications. https://doi.org/10.1177/10711813241275929
4. Zhang, Z., Lo, W. H., & **Huang, G.** (2024). The Impact of Meaningful Vibrotactile Displays on User Preferences Across Age Groups in Automated Driving. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/10711813241275919
5. Jain, P., Pendyala, S., Etu, E. E., Zhang, Z., Shah, M., Larot, J., & **Huang, G.** (2024). Exploring Attitudes Towards Smart Home Technology Through Focus Groups: Comparing Older Adults With and Without

Health Conditions. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting.* Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/10711813241276479

***2024 Arnold M. Small Best Student Paper Award**

6. Chu, A., Lo, W. H., & **Huang, G.** (2024). Multimodal Feedback for Effective Takeover in Automated Vehicles for Hearing Impairment. In *Adjunct Proceedings of the 16th International Conference on Automotive User Interfaces and Interactive Vehicular Applications* (pp. 304-306). https://doi.org/10.1145/3641308.3680515
7. Chu, A., & **Huang, G.** (2024). The Intersection of Voice Assistants and Autonomous Vehicles: A Scoping Review. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/10711813241275908
8. Orzech, G., Luo, Y., & **Huang, G.** (2024). Haptic Technology for Hearing Loss: A Systematic Review of Technical Feasibility, Usability, and User Experience. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/10711813241275928
9. Milind, N., Jain, P., & **Huang, G.** (2024). A Systematic Review Towards a Comprehensive Framework for Measuring Non-Chronological Age. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. (Accepted)
10. Huynh, J., Duong, H. X., **Huang, G.**, Etu, E. E., Quintero, D., & Jiang, L. (2023). Modular Tactile End Effector Design for Enhancing Haptic Feedback in Teleoperated Robotic Systems. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 87639, p. V006T07A046). American Society of Mechanical Engineers. https://doi.org/10.1115/IMECE2023-113969
11. **Huang, G.**, & Pitts, B. J. (2023). Tactile Displays: The Effects of Location and Intensity on Automated Vehicle Takeover Performance. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/21695067231192212
12. Zhang, Z., Luo, Y., & **Huang, G.** (2023). Empowering Independence: A Scoping Review on Innovations in Smart Home Technology for People with Motor Disabilities. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/21695067231192266
13. Lammert, K., **Huang, G.**, Etu, E. E., Quientero, D., & Jiang, L. (2023). Human-Centered Design: A Haptic Robotic-Based Leader-Follower Driving Training System to Improve Driving Skills and Enhance Safety. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/21695067231192452
14. Dong, M., Etu, E. E., Jiang, L., & **Huang, G.** (2023). Exploring the Impacts of Mind Wandering on Driver Takeover in Automated Vehicles: A Comparative Study of Multimodal Displays. In *Adjunct Proceedings of the 15th International Conference on Automotive User Interfaces and Interactive Vehicular Applications* (pp. 93-98). https://doi.org/10.1145/3581961.3609882
15. Martinez, K., & **Huang, G.** (2022). Designing and Evaluating Meaningful Tactile Displays to Assist Takeover in Automated Vehicles. In *Adjunct Proceedings of the 14th International Conference on Automotive User Interfaces and Interactive Vehicular Applications* (pp. 34-38). https://doi.org/10.1145/3544999.3552319
16. Shah, M., Engelsen, A. M., & **Huang, G.** (2022). A Systematic Review of Older Adults' Interactions with Smart Home Technology. In *2022 IEEE 3rd International Conference on Human-Machine Systems (ICHMS)*. IEEE. https://doi.org/10.1109/ICHMS56717.2022.9980777

17. Sajedinia, Z., Akash, K., Zheng, Z., Misu, T., Dong, M., Krishnamoorthy, V., Martinez, K., Sureshbabu, K., & **Huang, G.** (2022). Investigating Users' Preferences in Adaptive Driving Styles for Level 2 Driving Automation. In *14th International Conference on Automotive User Interfaces and Interactive Vehicular Applications* (pp. 162-170). https://doi.org/10.1145/3543174.3546088
18. Zheng, Z., Akash, K., Misu, T., Krishnamoorthy, V., Dong, M., Lee, Y., & **Huang, G.** (2022). Identification of Adaptive Driving Style Preference through Implicit Inputs in SAE L2 Vehicles. In *Proceedings of the 2022 International Conference on Multimodal Interaction (ICMI)* (pp. 468-475). https://doi.org/10.1145/3536221.3556637
19. Lee, Y. Y., Dong, M., Krishnamoorthy, V., Akash, K., Zheng, Z., Misu, T., & **Huang, G.** (2022). The Impacts of Adaptive Driving Styles on Trust in Level 2 Automated Vehicles. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 345-345). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181322661327
20. Martinez, K. D., & **Huang, G.** (2022). The Effects of Tactile Display on Automated Vehicle Takeover: A Literature Review. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 1305-1309). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181322661391
21. Dong, M., Lee, Y., Cha, J. S., & **Huang, G.** (2022). Effects of Alcohol Consumption on Driving: A Systematic Review. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 1481-1481). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181322661328
22. Summerville, S., Etu, E. E., Sureshbabu, K., Parmar, A., & **Huang, G.** (2022). Exploring the Use of Public Transportation Among Older Adults During COVID-19 Pandemic: A Pilot Study. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 8-12). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181322661340
    ***2022 Arnold M. Small Best Student Paper Award**
23. **Huang, G.**, & Pitts, B. J. (2021). Driver-Vehicle Interaction: The Effects of Physical Exercise and Takeover Request Modality on Automated Vehicle Takeover Performance between Younger and Older Drivers. In *2021 IEEE 2nd International Conference on Human-Machine Systems (ICHMS)* (pp. 1-4). IEEE. https://doi.org/10.1109/ICHMS53169.2021.9582642
24. **Huang, G.**, & Pitts, B. J. (2021). Automated Vehicle Takeover: A Pilot Study on the Effects of Age, Physical exercise, and Takeover Request Modality on Post-takeover Performance. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. https://doi.org/10.1177/1071181321651012
25. **Huang, G.**, Hung, Y. H., Proctor, R. W., & Pitts, B. J. (2021). Non-Chronological Age Factors and Self-perceived Driving Abilities: A Survey Study of Autonomous Vehicle Acceptance. *Technology, Mind, and Behavior*. https://doi.org/10.1037/tms0000090
26. **Huang, G.**, & Pitts, B. (2020). Age-Related Differences in Takeover Request Modality Preferences and Attention Allocation During Semi-autonomous Driving. In *International Conference on Human-Computer Interaction* (pp. 135-146). Springer, Cham. https://doi.org/10.1007/978-3-030-50252-2_11
27. **Huang, G.**, & Pitts, B. J. (2020). The Effects of Engagement in Physical Exercise on Semi-autonomous Takeover Request Perception between Younger and Older Adults. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 64, No. 1, pp. 27-27). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181320641007
28. **Huang, G.**, Petersen, C., & Pitts, B. J. (2020). The Impact of Mental States on Semi-autonomous Driving Takeover Performance: A Systematic Review. In *Proceedings of the Human Factors and Ergonomics*

Society Annual Meeting (Vol. 64, No. 1, pp. 1372-1376). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181320641328

29. **Huang, G.**, Steel, C., Zhang, X., & Pitts, B. (2019). Multimodal Cue Combinations: A Possible Approach to Designing In-Vehicle Takeover Requests for Semi-Autonomous Driving. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 63, No. 1, pp. 1739-1743). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181319631053
30. **Huang, G.**, Liang, N., Wu, C., & Pitts, B. (2019). The Impact of Mind Wandering on Signal Detection, Semi-autonomous Driving Performance, and Physiological Responses. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 63, No. 1, pp. 2051-2055). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181319631015
31. Werner, L., **Huang, G.**, & Pitts, B. J. (2019). Automated Speech Recognition Systems and Older Adults: A Literature Survey and Synthesis. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 63, No. 1, pp. 42-46). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181319631121
32. **Huang, G.**, & Pitts, B. (2019). Automated Speech Recognition Technology to Support in Flight Weather-related Communication for GA Pilots. In *20th International Symposium on Aviation Psychology*. (pp. 468-473). https://corescholar.libraries.wright.edu/isap_2019/79

Technical Reports & Thesis

1. Dong, M., Lee, Y., Cha, J., & **Huang, G.** (2024). *Investigating the Effects of Alcohol Consumption on Manual and Automated Driving: A Systematic Review*. Mineta Transportation Institute. https://doi.org/10.31979/mti.2024.2302
   ***Featured in the Transportation Research Board (TRB) Weekly, National Academies of Sciences, Engineering, and Medicine. Newsletter – 240402.**
2. Martinez, K., & **Huang, G.** (2022). *Exploring the Effects of Meaningful Tactile Display on Perception and Preference in Automated Vehicles*. Mineta Transportation Institute. https://doi.org/10.31979/mti.2022.2164
3. Sureshbabu, K., Etu, E., Summerville, S., Parmar, A., & **Huang, G.** (2022). *Exploring the Use of Public Transportation Among Older Adults During the COVID-19 Pandemic: A National Survey*. Mineta Transportation Institute. https://doi.org/10.31979/mti.2022.2204
   ***Featured in the Transportation Research Board (TRB) Weekly, National Academies of Sciences, Engineering, and Medicine. Newsletter – 230103.**
4. **Huang, G.** (2021). *Aging and Automation: Non-chronological Age Factors and Takeover Request Modality Predict Transition to Manual Control Performance during Automated Driving* (Doctoral dissertation). Purdue University. https://doi.org/10.25394/PGS.14879706.v1
5. **Huang, G.** (2021). *Using Advanced Driving Simulation and Vibrotactile Cues to Train Drivers to Interact with Next-Generation Autonomous Vehicles*. https://repository.lib.fit.edu/handle/11141/3439

Patent

1. Xi, Z., Zhang, J., Yang, J., **Huang, G.** (2012). Tapered jet foam sol generating device for controlling coal dust at transferring point of conveyor belt

PRESENTATIONS

Invited Lectures, Panels, & Keynote Addresses

1. **Huang, G.** (2024). E-Scooters and Subjective Well-Being: The Roles of Skill Level and Automation? Workshop on "promoting well-being for mobility users in future hybrid societies" at the 16th International ACM Conference on Automotive User Interfaces and Interactive Vehicular Applications. September.
2. **Huang, G.** (2023). Universal Interface Design for Next-Generation Automated Vehicles: Multimodal Information Integration and Evaluation. IT Distinguished Colloquium Series. Kennesaw State University. November.
3. **Huang, G.** (2023). Next-generation Human-Machine Interface in Automated Vehicles for Universal Drivers. RSCA in Five: Faculty Short Talks. San Jose State University. April.
4. **Huang, G.** (2022). Multimodal Information Presentation in Next-Generation Automated Vehicles. Invited seminar. College of Charleston. November.
5. **Huang, G.** (2022). Visual, Auditory, or Tactile? The Design and Evaluation of Next-Generation In-Vehicle Human-Machine Interfaces. Brownbag Seminar Series. North Carolina State University. October.
6. **Huang, G. (presenter)** (2022). Pressing Problems and Emerging Solutions in Aging Research. Oral presentation given at the Collaborative Symposium held by SJSU Center for Healthy Aging in Multicultural Populations (CHAMP) and Stanford Aging and Ethnogeriatrics (SAGE) Research Center. April.
7. **Huang, G.** (2022). Human-Automation and Human-Robot Interactions. Invited lecture in CS 789: Internet of Things. The University of Nevada. Las Vegas, NV. April.
8. **Huang, G.** (2019). Smart Home Technologies for Older Adults. Invited lecture in IE 590: Human Factors of Gerontechnology. Purdue University. West Lafayette, IN. October.

Academic Presentations and Posters

1. Lo, W. H. **(presenter)**, & **Huang, G.** (2024). Comparing Static and Dynamic Vibration Cues in Wristband Haptic Feedback for Enhanced Driver Response in Automated Vehicles. Oral presentation given at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.
2. Chu, A. **(presenter)**, & **Huang, G.** (2024). Assessing Meaningful Visual and Tactile Feedback for Effective Automated Vehicle Takeover by Hearing and Non- Hearing Drivers. Poster presented at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.
3. Lo, W. H. **(presenter)**, & **Huang, G.** (2024). A Survey on Perceptions of Smartwatch Haptic Feedback for Enhancing Automated Vehicle Takeover Decisions. Poster presented at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.
4. Zhang, Z. **(presenter)**, Lo, W. H., & **Huang, G.** (2024). The Impact of Meaningful Vibrotactile Displays on User Preferences Across Age Groups in Automated Driving. Oral presentation given at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.
5. Jain, P. **(presenter)**, Pendyala, S., Etu, E. E., Zhang, Z., Shah, M., Larot, J., & **Huang, G.** (2024). Exploring Attitudes Towards Smart Home Technology Through Focus Groups: Comparing Older Adults With and Without Health Conditions. Oral presentation given at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.
6. Chu, A. **(presenter)**, & **Huang, G.** (2024). The Intersection of Voice Assistants and Autonomous Vehicles: A Scoping Review. Poster presented at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.

7. Orzech, G. **(presenter)**, Luo, Y., & **Huang, G.** (2024). Haptic Technology for Hearing Loss: A Systematic Review of Technical Feasibility, Usability, and User Experience. Poster presented at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.
8. Milind, N. **(presenter)**, Jain, P., & **Huang, G.** (2024). A Systematic Review Towards a Comprehensive Framework for Measuring Non-Chronological Age. Oral presentation given at the *68th International Annual Meeting of the Human Factors and Ergonomics Society.* Phoenix, AZ. September.
9. Chu, A., Lo, W. H., & **Huang, G.** (2024). Multimodal Feedback for Effective Takeover in Automated Vehicles for Hearing Impairment. Video presented at the *16th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*. Stanford, CA. September.
10. Huynh, J., Duong, H., **Huang, G.**, Etu, E. E., Quintero, D., & Jiang, L. **(presenter)** (2023). Modular Tactile End Effector Design for Enhancing Haptic Feedback in Teleoperated Robotic Systems. Oral presentation given at the 2023 *ASME International Mechanical Engineering Congress and Exposition*. New Orleans, Louisiana. November.
11. **Huang, G.**, Zang, J. **(presenter)**, & Pitts, B. J. (2023). Tactile Displays: The Effects of Location and Intensity on Automated Vehicle Takeover Performance. Poster presented at the *67th International Annual Meeting of the Human Factors and Ergonomics Society.* Washington, DC. October.
12. Zhang, Z. **(presenter)**, Luo, Y., & **Huang, G.** (2023). Empowering Independence: A Scoping Review on Innovations in Smart Home Technology for People with Motor Disabilities. Poster presented at the *67th International Annual Meeting of the Human Factors and Ergonomics Society.* Washington, DC. October.
13. Lammert, K., **Huang, G.**, Zhang, Z. **(presenter)**, Etu, E. E., Quientero, D., & Jiang, L. (2023). Human-Centered Design: A Haptic Robotic-Based Leader-Follower Driving Training System to Improve Driving Skills and Enhance Safety. Poster presented at the *67th International Annual Meeting of the Human Factors and Ergonomics Society.* Washington, DC. October.
14. Dong, M. (**presenter**), Etu, E. E., Jiang, L., & **Huang, G.** (2023). Exploring the Impacts of Mind Wandering on Driver Takeover in Automated Vehicles: A Comparative Study of Multimodal Displays. Poster presented at the *15th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*. Ingolstadt, Germany. September.
15. Dong, M. (**presenter**), Lee, Y., Krishnamoorthy, V., Akash, K., Zheng, Z., Misu, T., & **Huang, G.** (2022). Driving Aggressively or Conservatively? Investigating the Effects of Adaptive Driving Styles and Event Type on Trust in Partially Automated Vehicles. Poster presented at the *2022 SJSU GIS Day Poster Presentation Competition co-sponsored by SAVi and Mineta Transportation Institute (MTI).* San Jose, CA. November. ***The 3rd Place Winner**
16. Zheng, Z., Akash, K. **(presenter)**, Misu, T., Krishnamoorthy, V., Dong, M., Lee, Y., & **Huang, G.** (2022). Identification of Adaptive Driving Style Preference through Implicit Inputs in SAE L2 Vehicles. Poster presented at the *24th ACM International Conference on Multimodal Interaction (ICMI)*. Bengaluru (Bangalore), India. November.
17. Lee, Y., Dong, M. **(presenter)**, Krishnamoorthy, V., Akash, K., Zheng, Z., Misu, T., & **Huang, G.** (2022). The Impacts of Adaptive Driving Styles on Trust in Level 2 Automated Vehicles. Oral presentation given at the *66th International Annual Meeting of the Human Factors and Ergonomics Society.* Atlanta, GA. October.
18. Dong, M. **(presenter)**, Lee, Y., Cha, J., & **Huang, G.** (2022). Effects of Alcohol Consumption on Driving: A Systematic Review. Oral presentation given at the *66th International Annual Meeting of the Human Factors and Ergonomics Society.* Atlanta, GA. October.

19. Summerville, S. **(presenter)**, Etu, E., Sureshbabu, K., Parmar, A., & **Huang, G.** (2022). Exploring the Use of Public Transportation Among Older Adults During COVID-19 Pandemic: A Pilot Study. Oral presentation given at the *66th International Annual Meeting of the Human Factors and Ergonomics Society.* Atlanta, GA. October.
20. Martinez, K. **(presenter)**, & **Huang, G.** (2022). The Effects of Tactile Display on Automated Vehicle Takeover: A Literature Review. Poster presented at the *66th International Annual Meeting of the Human Factors and Ergonomics Society.* Atlanta, GA. October.
21. Sajedinia, Z., Akash, K., Zheng, Z., Misu **(presenter)**, T., Dong, M., Krishnamoorthy, V., Martinez, K., Sureshbabu, K., & **Huang, G.** (2022). Investigating Users' Preferences in Adaptive Driving Styles for Level 2 Driving Automation. Oral presentation given at the *14th International Conference on Automotive User Interfaces and Interactive Vehicular Applications.* Seoul, South Korea. September.
22. Martinez, K. **(presenter)**, & **Huang, G.** (2022). Designing and Evaluating Meaningful Tactile Displays to Assist Takeover in Automated Vehicles. Poster presented at the *14th International Conference on Automotive User Interfaces and Interactive Vehicular Applications.* Seoul, South Korea. September.
23. **Huang, G. (presenter)**, Hung, Y. H., Proctor, R. W., & Pitts, B. J. (2021). Non-Chronological Age Factors and Self-perceived Driving Abilities: A Survey Study of Autonomous Vehicle Acceptance. Oral presentation given at the *2021 Technology, Mind and Society Conference*. (Virtual). November.
24. **Huang, G. (presenter)**, & Pitts, B. (2021). Automated Vehicle Takeover: A Pilot Study on the Effects of Age, Physical exercise, and Takeover Request Modality on Post-takeover Performance. Oral presentation given at the *65th International Annual Meeting of the Human Factors and Ergonomics Society.* Baltimore, MD. October.
25. **Huang, G. (presenter)** (2021). Driver-Vehicle Interaction: The Effects of Physical Exercise and Takeover Request Modality on Automated Vehicle Takeover Performance between Younger and Older Drivers. Oral presentation given at the 2nd *IEEE International Conference on Human-Machine Systems.* Magdeburg, Germany (Virtual). September.
26. **Huang, G. (presenter)** (2021). Age is Not Defined by a Number: Effects of Physical Exercise and Takeover Request Modality on Semi-autonomous Vehicle Takeover Performance. Oral presentation given at the 2nd *Annual Human Factors and Ergonomics Society Student Chapter Conference.* Virtual. April.
27. **Huang, G. (presenter)**, & Pitts, B. (2020). The Effects of Engagement in Physical Exercise on Semi-autonomous Takeover Request Perception between Younger and Older Adults. Oral presentation given at the *64th International Annual Meeting of the Human Factors and Ergonomics Society.* Chicago, IL (Virtual). October.
28. **Huang, G.**, Petersen **(presenter)**, C., & Pitts, B. (2020). The Impact of Mental States on Semi-autonomous Driving Takeover Performance: A Systematic Review. Poster presented at the *64th International Annual Meeting of the Human Factors and Ergonomics Society.* Chicago, IL (Virtual). October.
29. **Huang, G. (presenter)**, & Pitts, B. J. (2020). Age-Related Differences in Takeover Request Modality Preferences and Attention Allocation During Semi-autonomous Driving. Oral presentation given at the *22nd International Conference on Human-Computer Interaction*. Copenhagen, Denmark (Virtual). July.
30. **Huang, G. (co-presenter)**, Liang, N., & Pitts, B. J. (2020). Physiological Monitoring During Autonomous Driving. Oral presentation given at the *106th Purdue Road School Transportation Conference and Expo.* West Lafayette, IN. March.
31. Park, J. **(presenter)**, **Huang, G.**, & Pitts, B. J. (2019). Self-Perception of Manual Driving Abilities in Older Age: A Systematic Review. Poster presented at *the Annual Fall Undergraduate Research Expo*.

West Lafayette, IN. November.

32. **Huang, G. (presenter)**, Steel, C., Zhang, X., & Pitts, B. J. (2019). Multimodal Cue Combinations: A Possible Approach to Designing In-Vehicle Takeover Requests for Semi-Autonomous Driving. Oral presentation given at the *63rd International Annual Meeting of the Human Factors and Ergonomics Society*. Seattle, WA. October.
33. **Huang, G. (presenter)**, Liang, N., Wu, C., & Pitts, B. J. (2019). The Impact of Mind Wandering on Signal Detection, Semi-autonomous Driving Performance, and Physiological Responses. Oral presentation given at the *63rd International Annual Meeting of the Human Factors and Ergonomics Society*. Seattle, WA. October.
34. Gonzales, A. **(presenter)**, **Huang, G.**, Pitts, B. J. (2019). Augmented Reality in Semi-Autonomous Driving: The Effect of Warning Signal Format and Perceived Urgency on Takeover Performance. Poster presented at *Purdue Summer Undergraduate Research Fellowship Research Symposium*. West Lafayette, IN. August.
35. Richards, M. **(presenter)**, **Huang, G.**, Karagol, I., Pitts, B. J. (2019). Perception versus Reality: How do Older Drivers Self-perceive their Own Driving Abilities?. Poster presented at *Purdue Summer Research Opportunity Program's (SROP) Research Poster Symposium and Reception*. West Lafayette, IN. July.
36. **Huang, G. (presenter)**, & Pitts, B. J. (2019). Predicting Mind Wandering during Semi-autonomous Driving and Exploring Potential Mitigation Strategies. Oral presentation given at the *1st Annual Conference on Next-Generation Transport Systems (NGTS-2019).* West Lafayette, IN. May. **Won Outstanding Presenter Award.**
37. **Huang, G. (presenter)**, & Pitts, B. (2019). Automated Speech Recognition Technology to Support in Flight Weather-related Communication for GA Pilots. Oral presentation given at the *20th International Symposium on Aviation Psychology*. Dayton, OH. May.
38. **Huang, G. (co-presenter)**, Liang, N., & Pitts, B. J. (2019). Assisted-Driving & Autonomous Vehicle Systems: Human Factors Considerations in Next-Generation Transportation. Poster presented at the *105th Purdue Road School Transportation Conference and Expo.* West Lafayette, IN. March.
39. **Huang, G. (presenter)**, & Pitts, B. J. (2018). Assessing the Capability of Automated Speech Recognition Weather Information Interfaces in GA Flight. Poster presented at the *2018 The Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) Annual Meeting.* West Lafayette, IN. May.
40. Smith, T.D. & **Huang, G. (co-presenter)** (2017). Bolstering occupational safety and health outcomes through effective multi-level leadership. Oral Presentation given at the *2017 National Safety Council Congress & Expo*. Indianapolis, IN. September.

AWARDS AND HONORS

- NSF ADVANCE KIND iChange Supplemental Professional Development Grant Award 2024
- SJSU 2024/25 Student RSCA Fellowship Faculty Mentor Award 2024
- RSCA Faculty Mentor Award of Excellence, SJSU 2024
- Faculty RSCA Assigned Time Award 2023
- Spring 2023 University Grants Academy Award 2023
- SJSU 2022/23 Student RSCA Fellowship Faculty Mentor Award 2022
- STAR Fellow Faculty Mentor Award 2022
- College of Engineering Faculty Professional Development Grant Award, SJSU 2022
- HFES Student Member with Honors Award 2020

- Dr. Theodore J. and Isabel M. Williams Fellowship in Industrial Engineering 2020
- Purdue Graduate School Incentive Grant Award 2020
- HFES Honor Student of Purdue Award 2020
- Purdue Graduate Student Government Professional Grant 2019
- Graduate Student Mentor of the Summer, Purdue University 2019
- Outstanding Speaker Award, 1st Annual Conference on Next-Generation Transport Systems 2019
- Travel Grant, School of Industrial Engineering, Purdue University 2019
- Outstanding Undergraduate Graduation Thesis (Design), Tianjin 2014
- Honor Student Award, Tianjin, China 2014
- People Scholarship, Tianjin, China 2010-2013
- Freshman Scholarship, Tianjin, China 2011

TEACHING EXPERIENCE

San Jose State University

- ISE – 211 Experimental Design for Human Factors Engineering (graduate level) – Spring 2022
- ISE – 210 Human Factors/Ergonomics (graduate level) – Fall 2021; Fall 2022; Fall 2023; Fall 2024
- ISE – 200 Financial Methods for Engineers (graduate level) – Spring 2022; Spring 2023; Spring 2024
- ISE – 102 Engineering Economic Systems (undergraduate level) – Fall 2021; Fall 2022; Fall 2024

Indiana University Bloomington

- SPH – S151 Legal Aspect of Safety (undergraduate level) – Spring 2017
- SPH – H180 Stress Prevention & Management (undergraduate level) – Fall 2016
- SPH – F255 Human Sexuality (undergraduate level; graduate teaching assistant) – Fall 2015
- SPH – F341 Effects of Divorce on Children (undergraduate level; graduate teaching assistant) – Spring 2015

MENTORING

Graduate Students

- Vidya Krishnamoorthy, Industrial & Systems Engineering (graduated in Spring 2022)
- Kimberly Martinez, Industrial & Systems Engineering (graduated in Spring 2023)
- Miaomiao Dong, Industrial & Systems Engineering (graduated Fall 2023)
- Zhi Zhang, Industrial & Systems Engineering (graduated Spring 2024)
- Aries Chu, Industrial & Systems Engineering (expected Spring 2025)
- Wei-Hsiang Lo, Industrial & Systems Engineering (expected Spring 2025)
- Nidhi Deshpande, Industrial & Systems Engineering (expected Spring 2025)
- Poorva Jain, Industrial & Systems Engineering (expected Spring 2025)

Undergraduate Students

- Brenna Nettles-Miller, Industrial & Systems Engineering (graduated Spring 2023)
- Sanvee Boutuivi Kouam Pedro, Mechanical Engineering (expected Spring 2025)

Awards with mentored students

- Aries Chu. First Place in Engineering and Computer Science of the 38th Annual California State University Student Research Competition. 2024

- Wei-Hsiang Lo. 2024-25 Research and Innovation Student RSCA Fellowship. 2024
- Zhi Zhang. 2024 Donald Beall-Rockwell Award for Engineering Accomplishment. 2024
- Miaomiao Dong. 2023 Donald Beall-Rockwell Award for Engineering Accomplishment. 2023
- Miaomiao Dong, Minal Shah. 2022-23 Davidson Student Scholar, College of Engineering, SJSU. 2022
- Kimberly Martinez, Miaomiao Dong, Minal Shah. 2022 STAR Fellowship Awards. 2022
- Kimberly Martinez. 2022-23 Research and Innovation Student RSCA Fellowship. 2022
- Kimberly Martinez. 2022 Donald Beall-Rockwell Award for Engineering Accomplishment. 2022

SERVICE/ LEADERSHIP DEVELOPMENT

Professional Service

- **Editorial Board** 2024 – Present
  - Editorial Board Member, *Applied Ergonomics*
- **Journal Reviewer** 2020 – Present
  - *Accident Analysis and Prevention*
  - *Applied Ergonomics*
  - *Applied Sciences*
  - *Behaviour & Information Technology*
  - *Ergonomics*
  - *Human Factors*
  - *Human Factors and Ergonomics in Manufacturing & Service Industries*
  - *IEEE Transactions on Human-Machine Systems*
  - *IEEE Transactions on Intelligent Transportation Systems*
  - *Innovation in Aging*
  - *International Journal of Environmental Research and Public Health*
  - *International Journal of Human-Computer Interaction*
  - *International Journal of Human-Computer Studies*
  - *International Journal of Industrial Ergonomics*
  - *Gerontechnology*
  - *Micromachines*
  - *Sustainability*
  - *Transport Reviews*
  - *Transportation Research Part F: Traffic Psychology and Behaviour*
- **Conference Proceedings Reviewer** 2019 – Present
  - ACM Conference on Human Factors in Computing Systems (CHI)
  - Human Factors and Ergonomics Annual Meeting (HFES)
  - IEEE International Conference on Human-Machine Systems (IEEE ICHMS)
  - International ACM Conference on Automotive User Interfaces (AutoUI)
  - IFAC Workshop on Cyber-Physical and Human Systems (CPHS)
  - Asia Human-Computer Interaction Symposium (AHMIS)
- **Panelist** 2023 – Present
  - National Science Foundation (NSF)
- **Conference Organizing/Steering Committee Chair/Member**
  - 2024 AutoUI Conference. Interactive Demo Co-Chair
  - 2024 International Advances in Intelligent Robotics and Industrial Automation

Symposium (AIRIA 2024). Technical Program Committee
  - 2020 1st Annual HFES Student Chapter Conference. Committee Chair
- **Conference Session Chair/Co-Chair**
  - 2024 HFES Annual Meeting Surface Transportation Technical Group
  - 2023 HFES Annual Meeting Surface Transportation Technical Group
  - 2022 HFES Annual Meeting Surface Transportation Technical Group
  - 2021 HFES Annual Meeting Aging Technical Group
  - 2019 HFES Annual Meeting Perception and Performance Technical Group
  - 2019 HFES Annual Meeting Human Performance Modeling Technical Group
- **Award Committee/Reviewer** 2021 – Present
  - HFES Surface Transportation Technical Group Best Student Paper Award (2022)
  - Council of University Transportation Centers (CUTC) Student Award (2022)
  - HFES Aging Technical Group Student Research Scholarship (2021)
  - HFES Augmented Cognition Technical Group Student Grant Award (2021)
- **Program Chair Elect**, HFES Aging Technical Group 2022 – Present
- **Secretary/Treasurer**, HFES Aging Technical Group 2021 – 2022
- **Volunteer**, HFES Fellows Task Force 2020
- **Student Volunteer**, the HFES Annual Meeting 2019

University-related Service

- **Faculty Advisor**, HFES San Jose State University Student Chapter (won the national Gold award for the third year in a row since 2021) 2021 – Present
- **Curriculum Committee**, Charles W. Davidson College of Engineering, SJSU 2023 – Present
- **Research Committee**, Charles W. Davidson College of Engineering, SJSU 2021 – 2023
- **Chair Review Committee**, Dept. of Industrial and Systems Engineering, SJSU 2022
- **Judge Panel Member**, Spartan Step Up Conference, SJSU 2021
- **Lab Manager**, *N*HanCE Research Lab, Purdue University 2017 – 2021
- **Session Chair**, Purdue Summer Undergraduate Research Fellowship Research e-Symposium 2020
- **Co-President**, Human Factors & Ergonomics Society Purdue Student Chapter 2019 – 2020
- **Judge,** Purdue Summer Undergraduate Research Fellowship Research Symposium 2019

Community Service

- **Tech Team Volunteer**, Center on Aging and the Life Course (CALC), Purdue University 2019 – 2020
  - *Solving electronic equipment problems at senior living facilities*
- **Volunteer**, Purdue Space Day 2019
  - *STEM education outreach program for K-12 students*

CERTIFICATE/TRAINING

- Equity in Health Data Research Faculty Learning Community (FLC) – NIH All of Us Program 2024
- Faculty Mentor Boot Camp – Diversity, Equity, and Inclusion in Helping, Mentoring Relationships, SJSU 2022
- Certificate of Creating an Inclusive and Supportive Online Learning Environment, SJSU 2022
- Certificate of Purposeful Pivoting for Academic Continuity Course, SJSU 2022

- Certificate of Foundations in College Teaching, Purdue University 2019

PROFESSIONAL MEMBERSHIPS

- Human Factors and Ergonomics Society (HFES) 2017 – Present
  - Aging Technical Group
  - Augmented Cognition Technical Group
  - Cognitive Engineering and Decision Making Technical Group
  - Perception and Performance Technical Group
  - Surface Transportation Technical Group
- Association for Computing Machinery (ACM) 2023 – Present
- Institute of Electrical and Electronics Engineers (IEEE) 2020 – Present
- International Society of Gerontechnology 2020 – Present
- National Safety Council (NSC) 2019 – Present
- American Society of Safety Professionals (ASSP) 2014 – 2017

WORK EXPERIENCE

_N_ext-generation Human-systems and Cognitive Engineering (_N_HanCE) Lab **West Lafayette, IN**
Graduate Research Assistant, Advisor: Dr. Brandon J. Pitts Aug 2017 – June 2021

Human Performance Lab (HPL) **West Lafayette, IN**
Graduate Student Research Fellow; Advisor: Dr. Robert Proctor Aug 2018 – June 2021

Department of Applied Health Science **Bloomington, IN**
Graduate Research Assistant; Advisor: Dr. Todd Smith Aug 2015 – May 2016

Shanghai Yuanke Enterprise Management Consulting Co. Ltd. **Shanghai, China**
Assistant Safety Consultant (Intern) Feb 2014 – May 2014

Bureau of Safety Supervision, Government of Tianjin Binhai District **Tianjin, China**
Summer Research Intern Jun 2012 – Aug 2012

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