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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 José State University, San Jose, CA

Research Associate, Mineta Transportation Institute
San José State University, San Jose, CA

Faculty Affiliate, Center on Healthy Aging in Multicultural Population
San José State University, San Jose, CA

RESEARCH INTERESTS

Human factors, human-automation interaction, human behavior modeling, automated driving, successful aging, multimodal displays, human-machine interface, universal design

RESEARCH GRANTS/FUNDING

- **Industry funding**. (Sole PI; $53,000). 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 AND PRESENTATIONS

Peer-Reviewed Journal Articles

1. **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
2. **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
3. 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
4. **Huang, G.**, & Pitts, B. J. (Under Review). Takeover Requests for Automated Driving: The Effects of Signal Direction, Lead Time, and Modality on Takeover Performance. *Accident Analysis & Prevention*.
5. Sridhar, H., **Huang, G.,** Thorpe, A., Oishi, M., & Pitts, B. J. (Under Review). Characterizing the Effect of Mind-wandering on Partially Autonomous Braking Dynamics. *IEEE Transactions on Human-Machine Systems.*
6. Werner, L., **Huang, G.**, & Pitts, B. J. (Under Review). Smart Speech Systems: A Focus Group Study on Older Adult User and Non-User Perceptions of Speech Interfaces. *International Journal of Human-Computer Interaction*.

Peer-Reviewed Conference Proceedings

1. **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
2. **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*. (Accepted)
3. **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.*
4. **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
5. **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
6. **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
7. **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

8. **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
9. 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
10. **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. **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). https://doi.org/10.25394/PGS.14879706.v1
2. **Huang, G.** (2021). *Using Advanced Driving Simulation and Vibrotactile Cues to Train Drivers to Interact with Next-Generation Autonomous Vehicles*.

Academic Presentations and Posters

1. **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.
2. **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.
3. **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.
4. **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.
5. **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.
6. **Huang, G.**, Petersen, 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.
7. **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.

8. **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.
9. **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.
10. **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.
11. Park, J., **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.
12. Gonzales, A., **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.
13. Richards, M., **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.
14. **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.
15. **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.
16. **Huang, G. (presenter)**, Liang, N. (presenter), & 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.
17. **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.
18. 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.

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

Invited Lectures & Keynote Addresses

1. **Huang, G.** (2019). Smart Home Technologies for Older Adults. Invited lecture in IE 590: Human Factors of Gerontechnology. West Lafayette, IN. October.

AWARDS AND HONORS

- 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 José State University

- ISE – 210 Human Factors/Ergonomics (graduate level)
- ISE – 102 Engineering Economic Systems (undergraduate level)

Indiana University Bloomington

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

MENTORING

Graduate Students

- Kimberly Martinez, Industrial & Systems Engineering (expected Spring 2023)
- Yuni Lee, Industrial & Systems Engineering (expected Spring 2023)
- Mia Dong, Industrial & Systems Engineering (expected Spring 2023)
- Susan Summerville, Industrial & Systems Engineering (expected Spring 2023)
- Kevin Joel Salubre, Industrial & Systems Engineering (expected December 2022)
- Vidya Krishnamoorthy, Industrial & Systems Engineering (expected Spring 2022)

Undergraduate Students

- Brenna Nettles-Miller, Industrial & Systems Engineering (expected Spring 2023)

SERVICE/ LEADERSHIP DEVELOPMENT

Professional Service

- **Journal Reviewer** 2020 – Present
  - *Applied Ergonomics*
  - *IEEE Transactions on Human-Machine Systems*
  - *International Journal of Industrial Ergonomics*
  - *Gerontechnology*

- **Conference Proceedings Reviewer** 2019 – Present
  - Human Factors and Ergonomics Annual Meeting (HFES) (2019, 2020, 2021)
- **Secretary/Treasurer**, HFES Aging Technical Group 2021 – Present
- **Session Chair,** HFES Annual Meeting 2021
  - *Aging Technical Group (ATG)*
- **Reviewer**, HFES Aging Technical Group Student Research Scholarship 2021
- **Reviewer**, HFES Augmented Cognition Technical Group Student Grant Award 2021
- **Committee Chair**, 1st Annual HFES Student Chapter Conference 2020
- **Volunteer**, HFES Fellows Task Force 2020
- **Co-chair**, HFES Annual Meeting 2019
  - *Perception and Performance Technical Group (PPTG)*
  - *Human Performance Modeling Technical Group (HPMTG)*
- **Student Volunteer**, the HFES Annual Meeting 2019

University-related Service

- **Faculty Advisor**, HFES San José State University Student Chapter 2021 – Present
- **Research Committee**, Charles W. Davidson College of Engineering, SJSU 2021 – Present
- **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 Educational outreach program for K-12 students*

CERTIFICATE/TRAINING

- Certificate of Foundations in College Teaching, Purdue University, West Lafayette, IN 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
- Institute of Electrical and Electronics Engineers (IEEE) 2020 – Present
- International Society of Gerontechnology 2020 – Present
- National Safety Council (NSC) Member 2019 – Present
- American Society of Safety Professionals (ASSP) Member 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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