

# Brandon J. Pitts

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<https://engineering.purdue.edu/NHanCE>

## EDUCATION

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| 2016 | <b>Ph.D.</b> , Industrial and Operations Engineering<br>University of Michigan (UM), Ann Arbor, MI   |
| 2013 | <b>M.S.E.</b> , Industrial and Operations Engineering<br>University of Michigan, Ann Arbor, MI   |
| 2010 | <b>B.S.</b> , Industrial Engineering<br>Louisiana State University (LSU), Baton Rouge, LA<br><i>Cum Laude Distinction &amp; Commencement Speaker</i> |

## Certifications

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| 2011 | Engineer Intern License (E.I.T. #30330), State of Louisiana |
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## PROFESSIONAL APPOINTMENTS

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| 1/2017 – Present | <b>Assistant Professor</b> , School of Industrial Engineering<br>Purdue University, West Lafayette, IN<br><br><b>Faculty Associate</b> , Center on Aging and the Life Course (CALC)<br>Purdue University, West Lafayette, IN |
| 8/2016 – 12/2016 | <b>Post-doctoral Research Fellow</b><br>Center for Healthcare Engineering & Patient Safety (CHEPS)<br>University of Michigan, Department of Industrial and Operations Engineering  |

## RESEARCH INTERESTS

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Human factors, cognitive ergonomics/engineering, human-automation interaction, human-systems integration, multimodal information processing, adaptive interface design, gerontechnology, autonomous driving, aviation

## PUBLICATIONS AND PRESENTATIONS

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### Peer-Reviewed Journal Articles

1. Liang, N., Yang, J., Yu, D., Prakah-Asante, K. O., Curry, R., Blommer, M., Swaminathan, R., & **Pitts, B. J.** (Under Review). Using Eye-Tracking to Investigate the Effects of Pre-Takeover Visual Engagement on Situation Awareness During Automated Driving. Submitted to *Accident Analysis & Prevention*.
2. Yang, J., Liang, N., **Pitts, B. J.**, Prakah-Asante, K. O., Curry, R., Blommer, M., Swaminathan, R., & Yu, D. (Under Review). Multi-modal Sensing and Computational Intelligence for Situation Awareness Classification in Autonomous Driving. Submitted to *IEEE Transactions on Human-Machine Systems*.

3. Frazier, S., **Pitts, B. J.**, & McComb, S. (Under Review). Measuring Cognitive Workload in Automated Knowledge Work Environments: A Systematic Literature Review. Submitted on to *Cognitive Engineering and Decision Making*.
4. Sridhar, H., Huang, G., Thorpe, A. J., Oishi, M., & **Pitts, B. J.** (Under Review). Characterizing the effect of mind wandering on partially autonomous braking dynamics. Submitted to *IEEE Transactions on Human-Machine Systems*.
5. Werner, L., Huang, G. & **Pitts, B. J.** (Under Review). Older Adult User and Non-User Perceptions of Speech Recognition Systems: A Focus Group Study. Submitted to *International Journal of Human-Computer Studies*.
6. Huang, G. & **Pitts, B. J.** (Under Review). The Effects of Age and Physical Exercise on Multimodal Signal Perception: Implications for Semi-autonomous Vehicle Takeover Requests. Submitted to *Applied Ergonomics*.
7. Zhang, T., Yang, J., Liang, N., **Pitts, B. J.**, Prakah-Asante, K., Curry, R., Duerstock, B., Wachs, J., & Yu, D. (2020). Physiological Measurements of Situation Awareness: A Systematic Review. *Human Factors*.
8. 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.
9. **Pitts, B. J.** & Sarter, N. (2018). What You Don't Notice Can Harm You: Age-Related Differences in Detecting Concurrent Visual, Auditory, and Tactile Cues. *Human Factors*, 60(4), 445-464.
10. **Pitts, B.**, Riggs, S., & Sarter, N. (2016). Crossmodal Matching: A Critical but Neglected Step in Multimodal Research. *IEEE Transactions on Human-Machine Systems*, 46(3), 445-450.

### Peer-Reviewed Conference Proceedings

1. Johnson, I., Johnson, M. E., **Pitts, B. J.**, Blickensderfer, B., Brown, L., Ahlstrom, U., & Carstens, D. (Accepted). Human Factors Research in Weather Hazards Affecting General Aviation Safety. Submitted to the *Proceedings of the 22<sup>nd</sup> International Symposium on Aviation Psychology*.
2. Brown, L., Greenman, A., King, J., & **Pitts, B. J.** (2020). The General Aviation Weather Problem: Current Research, Pilot Practices, and Tools. Submitted to the *Proceedings of the 64th Annual Meeting of the Human Factors and Ergonomics Society*.
3. Huang, G., Petersen, C., & **Pitts, B. J.** (2020). The Impact of Mental States on Semi-autonomous Driving Takeover Performance: A Systematic Review. Submitted to the *Proceedings of the 64th Annual Meeting of the Human Factors and Ergonomics Society*.
4. Huang, G., & **Pitts, B. J.** (2020). The Effects of Engagement in Physical Exercise on Semi-autonomous Takeover Request Perception between Younger and Older Adults. Submitted to the *Proceedings of the 64th Annual Meeting of the Human Factors and Ergonomics Society*.
5. Zhang, T., Yang, J., Liang, N., **Pitts, B. J.**, & Yu, D. (2020). What Can Eye Tracking Reveal About Situation Awareness? A Systematic Review. Submitted to the *Proceedings of the 64th Annual Meeting of the Human Factors and Ergonomics Society*.
6. Chao, W., Lehto, M., **Pitts, B. J.** & Hass, Z. (2020). Evaluation of the Effectiveness of an Interpretive Nutrition Label Format in Improving Healthy Food Discrimination using Signal Detection Theory. In *11th International Conference on Applied Human Factors and Ergonomics* (pp.342-384). July. – Virtual

7. Huang, G. & **Pitts, B. J.** (2020). Age-Related Differences in Takeover Request Modality Preferences and Attention Allocation during Semi-Autonomous Driving. In *International Conference on Human Aspects of IT for the Aged Population* (135-146). July. – Virtual
8. Huang, G., Liang, N., Wu, C., & **Pitts, B. J.** (2019). The Impact of Mind Wandering on Signal Detection, Semi-autonomous Driving Performance, and Physiological Responses. In *Proceedings of the 63th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 2051-2055). Seattle, WA. October.
9. Huang, G., Steele, C., Zhang, X., & **Pitts, B. J.** (2019). Multimodal Cue Combinations: A Possible Approach to Designing In-Vehicle Takeover Requests for Semi-autonomous Driving. In *Proceedings of the 63th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 1739-1743). Seattle, WA. October.
10. Liang, N. & **Pitts, B. J.** (2019). The Effect of Secondary Cognitive Task Difficulty on Headway Maintenance and Perceived Workload While Using Lane Keeping Systems. In *Proceedings of the 63th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 2011-2015). Seattle, WA. October.
11. Werner, L., Huang, G., & **Pitts, B. J.** (2019). Automated Speech Recognition Systems and Older Adults: A Literature Review and Synthesis. In *Proceedings of the 63th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 42-46). Seattle, WA. October.
12. Huang, G. & **Pitts, B. J.** (2019). Automated Speech Recognition Technology to Support in Flight Weather-related Communication for GA Pilots. In *20th International Symposium on Aviation Psychology* (pp. 468). Dayton, OH. May.
13. **Pitts, B.** & Sarter, N. (2016). Two is company, three is a crowd: Age-related differences in processing concurrent visual, auditory, and tactile cues. In *Proceedings of the 60th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 1544). Washington, D.C. September.
14. **Pitts, B.** & Sarter, N. (2015). Crossmodal matching: A comparison of three techniques. In *Proceedings of the 59th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 1316-1320). Los Angeles, CA. October.
15. **Pitts, B.** & Sarter, N. (2014). Crossmodal matching: Validation of a new and more reliable technique. In *Proceedings of the 58th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 1751-1755). Chicago, IL. October.
16. **Pitts, B.**, Lu, S., & Sarter, N. (2013). Crossmodal matching: The development and evaluation of a new technique. In *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 1760-1764). San Diego, CA. September.

## Technical Reports & Thesis

1. Caldwell, B., Whitehurst, G., Brown, L., Rantz, B., Risukhin, V., Johnson, M., **Pitts, B.**, Ferris, T., Young, S., Pruchnicki, S., & Rao, A. (2019). General Aviation MET Information Optimization Project 4 Final Report. Report to the Federal Aviation Administration (FAA) under the Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) Center of Excellence (COE) Weather Technology in the Cockpit (WITC) Program.
2. **Pitts, B. J.** (2016). Age-Related Differences in Multimodal Information Processing and their Implications for Adaptive Display Design. Doctor of Philosophy, University of Michigan – Ann Arbor, MI.

3. Sarter, N. & **Pitts, B.** (2015). Complexity: Definitions, empirical findings, and recommendations for training and design. *Annual Technical Report to the Federal Aviation Administration (FAA)* under Grant #14-G-011. September.

## Academic Presentations

1. Dubbink, R., Luster, M., & **Pitts, B. J.** (2020). A review of smart home technologies user evaluation methods. Poster presented at the 2020 Purdue Fall Undergraduate Research Expo. West Lafayette, IN. November.
2. Luster, M. & **Pitts, B. J.** (2020). The Effects of System Confidence on Trust in Automation. Presentation given at the *Institute of Industrial and Systems Engineers (IISE) Annual Conference*. November. – Virtual
3. **Pitts B. J.**, Liang, N., & Huang, G. (2020). Physiological Monitoring During Autonomous Driving. Presentation given at the 106<sup>th</sup> *Purdue Road School Transportation Conference and Expo*. West Lafayette, IN. March.
4. Park, J., Huang, G., & **Pitts, B. J.** (2019). Self-perception of driving abilities in older age: A systematic review. Poster presented at the *2019 Purdue Fall Undergraduate Research Expo*. West Lafayette, IN. November.
5. Luster, M. & **Pitts, B. J.** (2019). Effects of System Confidence on Trust in Automation. Poster presented at the *National Society of Black Engineers Fall Regional Conference*. Grand Rapids, MI. November. – **\*Awarded First Place**
6. 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 the *Summer Undergraduate Research Fellowships (SURF) Program Research Symposium*. West Lafayette, IN. August.
7. Huang, G. & **Pitts, B. J.** (2019). Predicting Mind Wandering During Semi-Autonomous Driving and Exploring Potential Mitigation Strategies. Presentation given at the *1st Annual Conference on Next-generation Transport Systems*. West Lafayette, IN. May.
8. Liang, N. & **Pitts, B. J.** (2019). The Effect of Secondary Cognitive Task Difficulty on Headway Maintenance and Perceived Workload with Lane Keeping Systems. Presentation given at the *1st Annual Conference on Next-generation Transport Systems*. West Lafayette, IN. May.
9. **Pitts B.** (2019). Mind Wandering and Transition-of-Control during Semi-autonomous Driving. Presentation given at the 105<sup>th</sup> *Purdue Road School Transportation Conference and Expo*. West Lafayette, IN. March.
10. **Pitts, B. J.** (2018). Exploratory study on features for a PIREP submittal tool: Preliminary results. Presentation given at the *Friends & Partners in Aviation Weather 2018 Fall Meeting* at the National Business Aviation Association Business Aviation Convention & Exhibition. Orlando, FL. October.
11. **Pitts, B. J.** (2018). Aging with assisted-driving systems and autonomous vehicles. Presentation given at the Center on Aging and the Life Course (CALC) *Technological Innovations for Optimal Aging Symposium*. West Lafayette, IN. September.
12. Huang, G. & **Pitts, B. J.** (2018). Assessing the capability of automated speech recognition weather information interfaces in GA flight. Poster presented at the *Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) Annual Meeting*. West Lafayette, IN. May.

13. **Pitts, B.** & Sarter, N. (2016). Age-related differences in attention and their implications for display design. Poster presented at the *2016 ATLAS Meeting the Challenges of Safe Transportation in an Aging Society Symposium*. Ann Arbor, MI. September. – **\*Awarded First Place**
14. **Pitts, B.** (2016). Uncovering age-related differences in multimodal information processing. Poster presented at Purdue University Prospective Faculty Workshop. West Lafayette, IN. March.
15. **Pitts, B.** (2015). Multimodal information processing: Understanding and using human capabilities to design displays. Presentation given at the *LSU STEM Alumni Connect* program. Baton Rouge, LA. February.
16. **Pitts, B.** & Sarter, N. (2014). In-vehicle multisensory displays: How much can older adult drivers benefit from this technology? Poster presented at the *2014 Traffic Safety Conference*. San Antonio, TX. May.
17. **Pitts, B.**, Lu, S., & Sarter, N. (2013). Crossmodal matching: Toward the development of a novel technique. Poster presented at the *8<sup>th</sup> Annual Engineering Graduate Symposium (EGS)*. Ann Arbor, MI. November.
18. **Pitts, B.**, Chinnayeluka, S., & Roider, E. M. (2010). The assessment of the criteria for sustainability for residential framing systems. Poster presented at the *LSU Summer Undergraduate Research Forum (SURF)*. Baton Rouge, LA. August.
19. **Pitts, B.**, Liang, Y., Lee, J. D., & Ikuma, L. H. (2009). The relative contributions of cognitive and visual/manual distractions to driving performance. Presentation given at the *Institute of Industrial Engineers (IIE) International Annual Conference 2009*. Miami, FL. May.
20. **Pitts, B.**, Liang, Y., Lee, J. D., & Ikuma, L. H. (2009). The relative contributions of cognitive and visual/manual distractions to driving performance. Poster presented at the *National Society of Black Engineers (NSBE) Annual National Convention*, Undergraduate Students in Technical Research Competition. Las Vegas, NV. March.
21. **Pitts, B.**, Liang, Y., Lee, J. D., & Ikuma, L. H. (2009). The relative contributions of cognitive and visual/manual distractions to driving performance. Presentation given at the *Institute of Industrial Engineers Southeastern Regional Conference*, Technical Paper Competition. Baton Rouge, LA. February. – **\*Awarded First Place**
22. **Pitts, B.**, Liang, Y., Lee, J. D., & Ikuma, L. H. (2008). The relative contributions of cognitive and visual/manual distractions to driving performance. Poster presented at the *National Society of Black Engineers Fall Regional Conference* Undergraduate Students in Technical Research Competition. Dallas, TX. November. – **\*Awarded Second Place**

### **Invited Lectures, Panels, & Keynote Addresses**

1. **Pitts, B. J.** (2021). Multimodal and speech interfaces to support human performance in automated transportation environments. *Humans Interacting with Autonomy Workshop*. Hosted by Massachusetts Institute of Technology (MIT) Aeronautics and Astronautics (virtual). January.
2. **Pitts, B. J.** (2019). Industrial Engineering: A Human-Centered Discipline. Presentation given to the MEP ENGR 150 course. West Lafayette, IN. November.
3. **Pitts, B.** (2019). Aging with Smart & Autonomous Technologies. Invited lecture given at *Purdue's All-You-Can-Learn Buffet* series part of the Road Scholar (formerly Elderhostel) Group. West Lafayette, IN. June.

4. Lee, J. D., **Pitts, B. J.**, & Yeoman, C. (2018). Human Takeover and Safety. Invited panel presentation at the *Connected and Autonomous Transportation Vehicles (CATV) Ethics & Policy Workshop (2)*. Purdue Policy Research Institute (PPRI). West Lafayette, IN. November.
5. Gottschlich, S., Imel, M., **Pitts, B.**, & Timko, C. (2017). Securing Vehicles & Machinery. Invited panel presentation at *Annual CERIAS Information Security Symposium*. West Lafayette, IN. April.
6. **Pitts, B.** (2016). Age-related differences in multimodal attention and their implications for display design in healthcare. Invited lecture at the *Providing Better Healthcare through Systems Engineering* seminar series. UM Center for Healthcare Engineering and Patient Safety. Ann Arbor, MI. October.
7. **Pitts, B.** (2016). Life after graduate school: Preparing for careers in academia. Invited lecture for the UM Society of Minority Engineers and Scientists – Graduate Component (SMES-G). Ann Arbor, MI. October.
8. **Pitts, B.** (2016). How to survive your own occasional floods in graduate school. Invited keynote address for the UM Rackham Merit Fellowship (RMF) Kickoff Dinner. Ann Arbor, MI. August.
9. **Pitts, B.** (2015). Laws of simple movement. Invited lecture in IOE 533: Human Motor Behavior and Engineering Systems. Ann Arbor, MI. October.
10. **Pitts, B.** (2015). Hand tools design guidelines. Invited lecture in IOE 534: Occupational Biomechanics. Ann Arbor, MI. April.
11. **Pitts, B.** (2015). Human factors and ergonomics: Experiences, opportunities, and knowledge to gain. Invited lecture for the LSU student chapter of the Human Factors and Ergonomics Society (HFES). Baton Rouge, LA. February.
12. **Pitts, B.** (2013). Graduate school first, work later: Your role in changing the higher educational structure. Invited lecture at the *National Society of Black Engineers Annual National Convention*. Indianapolis, IN. March.

## RESEARCH FUNDING

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- U.S. Department of Transportation Inclusive Design Challenge. *Efficient, Accessible and Safe Interaction in a Real Integrated Design Environment for Riders with disabilities (EASI RIDER)* (Co-PI; \$300,000). 2021-2022.
- Ford Motor Company. *L3 Takeover: Driving Situation & FRU Physiological Factors Predict Takeover Risk* (PI; \$205,728). 2020-2022.
- Federal Aviation Administration. *PEGASAS Augmented Weather Interfaces Project (AWIP)* (Co-PI; \*\$929,353 total, \$230,907 to Purdue). 2019-2021.
- National Science Foundation. *CPS: Frontier: Collaborative Research: Cognitive Autonomy for Human CPS: Turning Novices into Experts* (Co-PI; \$5,500,872 total, \$2,246,040 to Purdue). 2019-2024.
- Center for Connected and Automated Transportation (CCAT) – U.S. DOT UTC Regional Proposal. *Investigation of AV Operational Issues using Driving Simulator Equipment* (Co-PI; \*\$75,000). 2019-2020.
- Purdue Engineering Faculty Conversations (EFC). *A Testbed for Modularized, Smart, and Occupant-Centric Buildings* (Co-PI; \$30,657). 2019-2020.
- Ford Motor Company (Ford-Purdue University Alliance). *Multimodal Cognitive and Perception Sensing for Situational Awareness* (Co-PI; \$200,000). 2019-2021.

- ZF Automotive Group - Higher Education Research Award. *Vehicle Automation: Supporting the Detection of System Malfunction and Cybersecurity Threats through Vibrotactile Interfaces* (Sole PI; \$50,000). 2019-2020.
- Federal Aviation Administration. *Center of Excellence for Technical Training and Human Performance (TTHP)* (Primary Site Director; \*\$78,000). 2016-2021.
- National Science Foundation. *CRII: CHS: Bridging the age-related performance gap: Multimodal interfaces to support older adults in transitioning to manual control in autonomous systems* (Sole PI; \$175,000). 2018-2020.
- Federal Aviation Administration. *PEGASAS Weather Technology in the Cockpit (WTIC, Phase 4)* (Co-PI; \*\$2,494,394 total, \$1,579,219 to Purdue). 2017-2018.
- University of Michigan, Rackham Graduate School. *Assessing the effects of aging on multimodal information processing* (Sole PI; \$3,000). 2015-2016.
- University of Michigan, Rackham Graduate School. *The effects of aging and modality expectation on processing concurrent multimodal cues.* (Sole PI; \$1,500). 2013-2015.
- University of Michigan, Rackham Graduate School. *Improving recruitment and retention of underrepresented minority students in the industrial and operations engineering department* (Significant contributor; \$20,900). 2013-2015.

\* denotes projects with cost matching requirements of this value

## TEACHING EXPERIENCE

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### **Purdue University, School of Industrial Engineering (IE)**

IE 431 – Industrial Engineering Design (Faculty Advisor)  
 IE 486 – Work Analysis and Design II  
 IE 559 – Cognitive Engineering of Interactive Software  
 IE 590 – Human Factors of Gerontechnology  
 IE 659 – Human Aspects in Computing

### **University of Michigan, Department of Industrial and Operations Engineering (IOE)**

IOE 434 – Human Error and Complex System Failure (Grader)  
 IOE 439 – Safety Engineering Methods (Grader)  
 IOE 536 – Cognitive Ergonomics (Grader)

## MENTORING

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### **Ph.D. Students (Committee Chair)**

Shree Frazier, Industrial Engineering (co-chair; expected Spring 2022)  
 Nade Liang, Industrial Engineering (expected Spring 2023)  
 Maya Luster, Industrial Engineering (expected Spring 2022)  
 Gaojian Huang, Industrial Engineering (expected Spring 2021)

### **Master's Students**

Mayur Deo, Industrial Engineering  
 Dhairya Kansara, Industrial Engineering  
 Yuyuan Liu, Industrial Engineering  
 Lauren Werner, Industrial Engineering (Thesis student; expected Spring 2021)

Nade Liang, Industrial Engineering (Thesis student; completed Summer 2019)

### **Undergraduate Students**

Ryan Dubbink (2020, Undergraduate research student)  
Roy Kim (Spring 2020 – Independent Study)  
Axel Rivera (Spring 2020 – Independent Study)  
Jacob Cook (Spring 2020 – Independent Study)  
Alec Gonzales (Summer 2019 SURF student)  
Mackenzie Richards (Summer 2019 LSAMP student)  
Jeanelle Tanhueco (Fall 2019 & Spring 2020, IE 490 – Independent Study)  
Collin Li (Fall 2019 & Fall 2020, IE 490 – Independent Study)  
Jun Woo Park (Fall 2019, IE 490 – Independent Study)  
Christine Petersen (Fall 2019, IE 490 – Independent Study)  
Lauren Werner (2018, Undergraduate research student)  
Matthew Scott (Summer 2018, IE 490 – Independent Study)  
Ilayda Karagol (2018-2019, IE 490 – Independent Study)  
Arpitha Gadag (Spring 2018, IE 490 – Independent Study)  
Connor Frohn (Fall 2017, Undergraduate research student)

## **SERVICE**

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### **University-Related Committees:**

Member, Purdue IE Strategic Thinking Group (STG) Committee, 2020-2021  
Member, Purdue IE Faculty Search Committee, 2019-2020  
Member, Purdue College of Engineering “Technology Infrastructure and Resources” Working Group, Spring 2018  
Member, Purdue Charles C. Chappelle Fellowship Review Committee, Spring 2018  
Member, Purdue IE Graduate Committee, 2017-2018, 2020-2021  
Member, Purdue IE Undergraduate Committee, Spring 2017

### **Professional:**

Subject Matter Expert, Moving Forward 2020 Workshop Presented by Indiana Housing and Community Development Authority and Energy Systems Network, 2020  
Board Member, ITAP: 6th International Conference on Human Aspects of IT for the Aged Population (HCI International 2020), 2019-2020  
Chair, Human Factors and Ergonomics Society (HFES) Annual Meeting Presentation Session

- Cognitive Engineering & Decision Making Technical Group (CEDMTG; 2017, 2019)
- Perception & Performance Technical Group (PPTG; 2019)
- Surface Transportation Technical Group (STG; 2018, 2019, 2020)

Co-Chair, HFES Annual Meeting Presentation Session

- Aging Technical Group (ATG; 2014)
- Perception & Performance Technical Group (PPTG; 2014, 2018)

Committee Member, HFES Chapanis Best Student Paper Award, 2019  
Member, National Council of Examiners for Engineering and Surveying (NCEES) Standard-Setting Committee for Industrial Engineering, 2012  
Judge, Institute of Industrial & Systems Engineers (IISE) Annual Conference Doctoral Poster Competition, 2017



President, UM HFES Chapter, 2013-2014  
President, UM Society of Minority Engineers & Scientists – Graduate Component (SMES-G), 2012-2013  
Vice-President, UM HFES Chapter, 2012-2013  
Vice-President, LSU IISE Chapter, 2009-2010  
Vice-President, LSU Chapter of the Tau Beta Pi Engineering (TBP) Honor Society, 2009-2010  
Treasurer, LSU IISE Chapter, 2008-2009  
Committee Member, IISE Southeastern Regional Conference, 2008-2009

## **Reviewing Activities:**

### Journals

Frontiers in Psychology  
Human Factors  
Human Factors and Ergonomics in Manufacturing & Service Industries  
International ACM Conferences on Automotive User Interfaces  
International Federation of Automatic Control (IFAC) on Cyber-Physical & Human-Systems  
International Journal of Human-Computer Interaction  
International Journal of Human-Computer Studies  
International Journal of Industrial Ergonomics  
Journal of Cognitive Engineering and Decision Making  
Journal of Interactive Media  
Proceedings of the Human Factors and Ergonomics Society Annual Meeting  
Transportation Research Part C: Emerging Technologies

### Panels

National Institute on Aging  
National Science Foundation

## **Outreach:**

Faculty Lead, Purdue Center on Aging and the Life Course (CALC) Tech Team Program, 2019-2020  
Faculty Advisor, Industrial Engineering Graduate Student Organization (IEGSO), 2019-2020  
Faculty Advisor, Institute for Healthcare Improvement (IHI), 2018-2020  
Faculty Advisor, IE 431 Capstone Senior Design – Purdue University, 2017 – Present  
Mentor, Purdue Engineering Academic Career Club (EACC), Mentoring Circles: Office of Graduate Education, 2019  
Session Convener, University of Michigan NextProf and NextProf Nexus Workshops, 2017, 2019  
Panelist, "Preparing for the Interview" – NextProf Nexus Workshop, 2020  
Presenter, "How to work a career fair" – Minority Engineering Program (MEP) Professional Development Series, 2019  
Panelist, "Preparing for Faculty and Administrator Roles Within Education: Starting the Search and Executing for Domestic and International Students" – Holmes Scholars Fall Professional Development within Purdue University College of Education, 2018  
Presenter, "Life after graduate school: Preparing for careers in academia" – Purdue Black Graduate Student Association (BGSA), 2017  
Panelist, "Mastering your transition into graduate school" – MEP Graduate Success Symposium, 2017  
Panelist, "Being successful in graduate school – A faculty perspective" e-Mentoring Faculty Panel – Purdue University Graduate School, 2017

Panelist, "How Robots are Changing Our Lives," 2016  
Mathematics Facilitator, UM Office for Health Equity and Inclusion, Michigan Health Sciences Pre-College Exposure Academy (MHSPEA), 2014, 2015  
Workshop leader, MconneX Program Xplore Engineering Day, 2013-2015  
Engineering Instructor, UM Center for Engineering Diversity and Outreach, Summer College Engineering Exposure Program (SCEEP), 2012-2015  
Panelist, NSF Graduate Research Fellowship Workshop, 2012  
LSU Diversity Ambassadors Program, 2009-2010  
Mentor, Boys Hope Girls Hope, Mentoring Program, 2010-2011  
Counselor, LSU Recruitment into Engineering High Achieving Minority Students (REHAMS), 2010

## **HONORS AND AWARDS**

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Purdue University College of Engineering, Outstanding Faculty Mentor Award, 2020  
Purdue University, Outstanding Engineering Educators, 2018, 2019  
Best New Faculty Poster, Purdue Robotics & IoT Showcase, 2019  
NIOSH Traineeship Fellowship Program, 2015-2016  
UM Center for Engineering Diversity & Outreach ScholarPOWER Award, 2015  
UM Rackham Graduate School Travel Grant Award, 2013, 2014, 2015  
Ford Foundation Pre-doctoral Fellowship – Honorable Mention, 2013  
Distinguished Leadership Award, UM College of Engineering, 2013  
NSF Graduate Research Fellowship Program (GRFP), 2011-2014  
Fall 2010 Commencement Speaker, LSU College of Engineering Graduation Ceremony, 2010  
NSF Funded - LA-STEM Research Scholarship Program, 2007-2010  
Iowa Alliance for Graduate Education and the Professoriate (AGEP), 2008  
1<sup>st</sup> Place in the IIE Undergraduate Technical Paper Competition, 2009  
2<sup>nd</sup> Place in the NSBE Undergraduate Students in Technical Research Poster Competition, 2008  
Louisiana Tuition Opportunity Program for Students (TOPS) Award, 2006-2010  
LSU Black Faculty and Staff Caucus Award, 2008, 2009, 2010  
Chevron Corporation, Information Technology Scholarship, 2009  
LSU Academic Competitiveness Grant, 2007  
Louisiana State Board of Regents Scholar, 2006

## **PROFESSIONAL MEMBERSHIPS**

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Human Factors and Ergonomics Society (HFES), 2011 – Present

- Aerospace Systems Technical Group (ASTG)
- Aging Technical Group (ATG)
- Cognitive Engineering and Decision Making Technical Group (CEDMTG)
- Education Technical Group (ETG)
- Human AI Robot Teaming Technical Group (HARTTG)
- Perception and Performance Technical Group (PPTG)
- Surface Transportation Technical Group (STTG)

Institute of Industrial and Systems Engineers (IISE), 2007 – Present  
Phi Kappa Phi Honor Society, 2010 – Present  
Edward Alexander Bouchet Graduate Honor Society, 2015-Present

National Society of Black Engineers (NSBE), 2007 – Present  
UM Epeians Engineering Leadership Honor Society, 2012 – Present  
Alpha Pi Mu (Industrial Engineering Honor Society), 2009 – Present  
Tau Beta Pi (TBP) Engineering Honor Society, 2008 – Present  
Alpha Phi Alpha Fraternity, Incorporated, 2014 – Present

## **WORK EXPERIENCE**

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- 2/2014 – 10/2016    **Instructional Assistant**  
Lean Healthcare, Manufacturing, and Office Workshops  
UM Integrative Systems + Design Professional Program, Ann Arbor, MI
- 1/2011 – 7/2011    **Program Coordinator**  
NSF Project – Innovation through Institutional Integration (I<sup>3</sup>)  
LSU Office of Strategic Initiatives, Baton Rouge, LA
- 5/2009 – 8/2009    **Industrial Engineering Intern**  
Summer Internship  
United Airlines (formerly Continental Airlines), Houston, TX